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STREAM RESTORATION SERVICES SPB07-13780-G

1. PARTIES

THIS CONTRACT, is entered into by and between the State of Montana, Department of Administration, State Procurement Bureau, (hereinafter referred to as "the State"), whose address and phone number are Room 165 Mitchell Building, 125 North Roberts, PO Box 200135, Helena MT 59620-0135, (406) 444-2575 and River Design Group, Inc., (hereinafter referred to as the "Contractor"), whose address and phone number are 5098 Highway 93 South, Whitefish, MT 59937 and (406) 862-4927.

THE PARTIES AGREE AS FOLLOWS:

2. PURPOSE

The purpose of this term contract is to establish a list of pre-qualified Stream Restoration Services Providers. Work will be assigned through task orders each against this term contract. The State makes no guarantee of use by any agency with authorized access to this term contract. This term contract covers stream restoration services projected to cost up to \$499,999. Proposed projects for stream restoration services for which estimated costs exceed \$500,000 will be advertised for competitive bid.

3. <u>EFFECTIVE DATE, DURATION, AND RENEWAL</u>

- 3.1 Contract Term. This contract shall take effect upon contract execution and terminate on June 30, 2009, unless terminated earlier in accordance with the terms of this contract. (Mont. Code Ann. § 18-4-313.)
- 3.2 Contract Renewal. This contract may, upon mutual agreement between the parties and according to the terms of the existing contract, be renewed in two-year intervals, or any interval that is advantageous to the State. This contract, including any renewals, may not exceed a total of seven years. Contractors failing to respond to renewal notices within the time specified by the SPB will have their name placed in an inactive status on the State website, and this shall make that contractor ineligible to receive task orders until such time as renewal information is received and accepted by the Contracts Officer.

4. NON-EXCLUSIVE CONTRACT

The intent of this contract is to provide state agencies with an expedited means of procuring services. This contract is for the convenience of state agencies and is considered by the State Procurement Bureau to be a "Non-exclusive" use contract. Therefore, agencies may obtain this service from sources other than the contract holder(s) as long as they comply with Title 18, MCA, and their delegation agreement. The State Procurement Bureau does not guarantee any usage.

5. COOPERATIVE PURCHASING

Under Montana law, public procurement units, as defined in section 18-4-401, MCA, have the option of cooperatively purchasing with the State of Montana. Public procurement units are local or state public procurement units of this or any other state, including an agency of the United States, or a tribal procurement unit. Unless the bidder/offeror objects, in writing, to the State Procurement Bureau prior to the award of this contract, the prices, terms, and conditions of this contract will be offered to these public procurement units.

6. TERM CONTRACT REPORTING

Term contractors shall furnish annual reports of term contract usage. The annual reports shall be based on information for July 1 through June 30 each year. Minimum information required to be included in usage reports: name of the agency or governmental entity that contacted contractor regarding a potential project; project title; agency contact person; if the project was not successfully negotiated, state the reason; number and title of contracts received; total dollar amounts for contracts received; the names of Contractor's personnel involved in the project; and project status as of usage report date. The first report for this term contract will be due July 30, 2008.

Reported usage and dollar totals may be checked by the State Procurement Bureau against state records for verification. Failure to provide timely or accurate reports is justification for cancellation of the contract and/or justification for removal from consideration for award of contracts by the State.

7. SERVICES AND/OR SUPPLIES

Contractor agrees to provide the State the following: Stream Restoration Designs, Oversight and/or Implementations with a range of complexities for various stream restoration, reclamation and enhancement projects located around the state using techniques that focus on restoring natural processes within the riverriparian ecosystem. Restoration, reclamation and enhancement projects will include stream channel renaturalization; bank stabilization projects focusing on re-establishing natural structure and function, riparian restoration; spawning rearing and adult fish habitat enhancement; fish passage restoration; and in-stream flow enhancement.

8. **ENGINEERING ACCESS**

Contractor may need to have access to engineering services depending on the nature of the project. The contractor(s) will be expected to consult with the State and develop a recommendation as to whether engineering services are needed for a given project. However, engineering methodologies are not the emphasis of this RFP. Therefore, **NO** Architectural, Engineering and Land Surveying services are allowed under this term contract as defined under 37-67-101, MCA unless the procurement procedures of 18-8-204, MCA are followed.

8.1 Reuse of Documents. When the projects dictate a design or engineered approach, the State agrees that it will not apply the contractor's designs to any other projects.

9. PROJECT SELECTION

- <u>9.1 Project Identification.</u> The State will be responsible for identifying projects, selecting a contractor, assigning a task order, and approving project payments.
- **9.2 Meetings.** For stream restoration services, the contractor may be required to meet with state personnel at the onset of the project and periodically thereafter to resolve technical or contractual problems that may occur during the term of a project. The contractor may be required to attend meetings with other federal and state agencies and public meetings as directed by state personnel.

The contractor may be required to meet with state personnel at the project site to conduct a site evaluation and discuss project issues.

The contractor will be given a minimum of three full working days notice of meeting date, time, and location. While face-to-face meetings are desirable, a conference call meeting may be substituted at the discretion of state personnel. Consistent failure to participate in meetings (two consecutive missed or rescheduled meetings) may result in termination of the task order and contract.

9.3 Approach Expectations. In the case of reclamation activities, the agency will identify the preferred techniques. The selection of particular techniques by the State may define which contractor(s) are contacted for project initiation. The State is always open to new and innovative approaches that accomplish project goals.

10. SELECTING A CONTRACTOR

The State may select a term contract contractor listed in the Stream Restoration Services contract as posted on the Environmental Services Contract-Home page as provided under the State's website address http://gsd.mt.gov/apps/termcontracts/default.aspx, taking into consideration such things as the contractor's area of expertise, requirements and location of the project, the Contractor's availability and access to resources necessary to efficiently and effectively complete the project, demonstrated excellent past performance on state and public projects, identified subcontractors, and total project cost.

- <u>10.1 General.</u> Ordering agencies shall use the procedures in this section when ordering services priced at hourly rates as established by each Term Contract (TC). The applicable rates and qualifications are identified in the TC along with the each contractor's point of contact.
- **10.2** Request for Quotation (RFQ) Procedures. The ordering agency must provide an RFQ, which includes the SOW and limited but specific evaluation criteria (e.g., experience and past performance), to TC contractors that offer services that will meet the agency's needs. The RFQ may be posted to the agency's state website to expedite responses.
- <u>10.3</u> <u>Statement of Work (SOW).</u> All SOWs shall include at a minimum a detailed description of the work to be performed, location of work, period of performance, deliverable schedule, applicable performance standards, and any special requirements (e.g., security clearances, travel, special knowledge, budget constraints).
 - <u>10.3.1</u> Ordering agency may select a contractor from the pre-qualified list and directly negotiate a mutually acceptable project based on a sudden and unexpected happening or unforeseen occurrence or condition, which requires immediate action (*Exigency*).
 - <u>10.3.2</u> Ordering agency may place orders at or below the \$5,000 threshold with any term contract contractor that can meet the agency's needs. The ordering agency should attempt to distribute orders among all contractors.
 - **10.3.3** For orders estimated to exceed \$5,000 but be less than \$25,000:
 - The ordering agency shall develop a SOW.
 - The ordering agency shall provide the Request for Qualifications (including the SOW and evaluation criteria) to at least three listed TC contractors that will meet the agency's needs.
 - The ordering agency shall request that contractors submit firm-fixed prices to perform the services identified in the SOW.
 - **10.3.4** For orders estimated to exceed \$25,000. In addition to meeting the requirements of 10.3.3 above, the ordering agency shall:
 - Provide the Request for Qualifications (including the SOW and the evaluation criteria) to all listed term contract contractors.
- <u>10.4 Evaluation.</u> The ordering agency shall evaluate all responses received using the evaluation criteria provided to the TC contractors. The ordering agency is responsible for considering the level of effort and the mix of labor proposed to perform a specific task being ordered, and for determining that the total price is reasonable. The agency will place the order with the contractor that represents the best value. After award, ordering agencies will provide timely notification to unsuccessful TC contractors. If an unsuccessful TC

contractor requests information on a task order award that was based on factors other than price alone, a brief explanation of the basis for the award decision shall be provided.

10.5 Minimum Documentation. The ordering agency shall document:

- The TC contractors considered, noting the contractor from which the service was purchased;
- A description of the service purchased;
- The amount paid;
- The evaluation methodology used in selecting the contractor to receive the order;
- The rationale for making the selection;
- Determination of price fair and reasonableness.

The State reserves the right to cease negotiations with the contractor if agreement cannot be reached on project approach and/or costs, and to begin negotiations with another contractor from the list. The State will keep complete written documentation of any negotiation process in the project file.

Agency project task orders will be utilized to finalize the project. Only written addenda will be used for adjustments of the task orders and must be signed by both parties. All task orders must contain signatures from both parties and appropriate agency legal review as directed in their procurement policy.

The State will monitor contractor selection by using the information provided in the annual term contract usage reports.

11. CONTRACTOR RESPONSIBILITIES

- <u>11.1 Supervision and Implementation.</u> The contractor for an individual project will be responsible for the supervision and implementation of the approach and will be responsible for oversight of work performed by all subcontractors.
- 11.2 Applicable Laws. The contractor shall keep informed of, and shall comply with all applicable laws, ordinances, rules, regulations, and orders of the city, county, state, federal or public bodies having jurisdiction affecting any work to be done to provide the services required. The contractor shall provide all necessary safeguards for safety and protection, as set forth by the Department of Labor, Occupational Safety and Health Administration.
- <u>11.3 Work Acceptance.</u> The contractor is responsible for project oversight as needed. All work rejected as unsatisfactory shall be corrected prior to final acceptance. The State may also periodically provide personnel for administrative oversight from the initiation of the task order through project completion. All work will be inspected by the State or designated liaison prior to approval of any task order payments. All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. Contractor shall respond within seven calendar days after notice of defects has been given by the State and proceed to immediately remedy all defects.
- <u>11.4 Records.</u> The contractor will supply the State with documentation, when requested, of methods used throughout project implementation. Contractor will maintain records, for itself and all subcontractors, of supplies, materials, equipment, and labor hours expended. The contractor will supply the State with photo documentation of methods of habitat restoration progress throughout project implementation. Contractor will maintain records for themselves and all subcontractors of supplies, materials, equipment and labor hours expended.
- <u>11.5</u> <u>Communication.</u> Remoteness of project sites may necessitate that the contractor have some form of field communication, such as a cellular phone. This communication is necessary to enable the State to respond to public questions or concerns related to the project, accidents, inspections, or other project issues that require immediate feedback. In addition, the State or cooperative purchaser may require scheduled communication at agreed upon intervals. The communication schedule will depend upon the project circumstances and requirements of the agency issuing a task order. In the case when a communication

schedule is included in the Scope of Work, the schedule will commence when the Contractor initiates the project.

- <u>11.6</u> <u>Collaboration.</u> The State encourages collaboration between contractors to increase the scope of services offered. If the contractor is not able to provide all services needed for the project, the State will expect the contractor to contact other contractors on the term contract list to negotiate subcontracts for these services before going elsewhere. Exceptions to this strategy will be evaluated on a case-by-case basis.
- <u>11.7</u> <u>Subcontractors, Project Budget and Invoicing.</u> All subcontractors to be used in any project must be approved by the agency initiating the project. Project budgets will be negotiated for each individual project task order. However, all rates, terms, and conditions set forth in this term contract will be applied to individual task orders.

Contractor's billing will include the subcontractors' charges, and payment will be made to the prime contractor.

<u>11.8 On-Site Requirements/Cleanup</u> The contractor should visit all job sites to verify measurements and to become fully aware of the conditions relating to the project and the labor requirements. Failure to do so will not relieve the contractor of their obligation to furnish all materials and labor necessary to carry out the provisions of the contract.

The contractor shall adequately protect the work, adjacent property, and the public in all phases of the work. The contractor shall be responsible for all damages or injury due to their action or neglect.

The contractor shall maintain access to all phases of the project pending inspection by the State or its representative.

All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance.

The contractor shall respond within seven calendar days after notice of observed defects has been given and shall proceed to immediately remedy these defects. Should the contractor fail to respond to the notice or not remedy the defects, the State may have the work corrected at the expense of the contractor.

In terms of cleanup, the contractor shall:

- (a) keep the premises free from debris and accumulation of waste;
- (b) clean up any oil or fuel spills;
- (c) keep machinery clean and free of weeds;
- (d) remove all construction smears and stains from finished surfaces;
- (e) perform finishing site preparation to limit the spread of noxious weeds before final payment by the State; and
- (f) remove all construction equipment, tools and excess materials before final payment by the State.

12. CONSIDERATION/PAYMENT

- <u>12.1 Payment Schedule.</u> In consideration for the stream restoration, design and implementation services to be provided, the State shall pay according to the negotiated agreement for each task order. Hourly rates and miscellaneous charges as provided in Appendix C shall be the basis of any negotiations.
- <u>12.2</u> <u>Withholding of Payment.</u> The State may withhold payments to the contractor if the contractor has not performed in accordance with this contract. Such withholding cannot be greater than the additional costs to the State caused by the lack of performance.

13. COST/PRICE ADJUSTMENTS

- <u>13.1 Cost Increase by Mutual Agreement.</u> After the initial term of the contract, each renewal term may be subject to a cost increase by mutual agreement. The State retains the unilateral right to reject any cost increase not supported by verifiable evidence.
- 13.2 Differing Site Conditions. If, during the term of this contract, circumstances or conditions are materially different than set out in the specifications, the contractor may be entitled to an equitable adjustment in the total project price. The contractor shall immediately cease work and notify the State in writing of any such conditions necessitating an adjustment as soon as they are suspected and <u>prior</u> to the changed conditions affecting the performance of this contract. Any adjustment shall be agreed upon in writing by both parties to the contract.

14. ACCESS AND RETENTION OF RECORDS

- **14.1** Access to Records. The contractor agrees to provide the State, legislative auditor, or their authorized agents' access to any records necessary to determine contract compliance. (18-1-118,MCA)
- <u>14.2 Retention Period.</u> The contractor agrees to create and retain records supporting the Environmental Permit Preparation, Analysis and Assistance Services term contract for a period of three years after either the completion date of this contract or the conclusion of any claim, litigation or exception relating to this contract taken by the State of Montana or a third party.

15. ASSIGNMENT, TRANSFER, AND SUBCONTRACTING

The contractor shall not assign, transfer, or subcontract any portion of this contract without the express written consent of the State. (18-4-141, MCA) The contractor shall be responsible to the State for the acts and omissions of all subcontractors or agents and of persons directly or indirectly employed by such subcontractors, and for the acts and omissions of persons employed directly by the Contractor. No contractual relationships exist between any subcontractor and the State.

16. HOLD HARMLESS/INDEMNIFICATION

The contractor agrees to protect, defend, and save the State, and its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the Contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

17. REQUIRED INSURANCE

- <u>17.1 General Requirements.</u> The contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.
- <u>17.2 Primary Insurance.</u> The contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees, or volunteers shall be excess of the contractor's insurance and shall not contribute with it.
- <u>17.3 Specific Requirements for Commercial General Liability.</u> The contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property

damage of \$1,000,000 per occurrence and \$2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns, or subcontractors.

- <u>17.4 Additional Insured Status.</u> The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insured's for liability arising out of activities performed by or on behalf of the contractor, including the insured's general supervision of the contractor; products and completed operations; premises owned, leased, occupied, or used.
- <u>17.5</u> Specific Requirements for Automobile Liability. The contractor shall purchase and maintain coverage with split limits of \$500,000 per person (personal injury), \$1,000,000 per accident occurrence (personal injury), and \$100,000 per accident occurrence (property damage), OR combined single limits of \$1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the contractor or its officers, agents, representatives, assigns or subcontractors.
- <u>17.6 Additional Insured Status.</u> The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insured's for automobiles leased, hired, or borrowed by the Contractor.
- <u>17.7</u> <u>Deductibles and Self-Insured Retentions.</u> Any deductible or self-insured retention must be declared to and approved by the State agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, or volunteers; or (2) at the expense of the contractor, the contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.
- <u>17.8 Certificate of Insurance/Endorsements.</u> A certificate of insurance from an insurer with a Best's rating of no less than A- indicating compliance with the required coverage has been received by the State Procurement Bureau, P.O. Box 200135, Helena, MT 59620-0135. The contractor must notify the State immediately, of any material change in insurance coverage, such as changes in limits, coverage, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

18. COMPLIANCE WITH WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with 2005 Montana Laws, chapter 448, section 1, and sections 39-71-401, and 39-71-405, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor's exemption, or documentation of corporate officer status. Neither the contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the State Procurement Bureau, P.O. Box 200135, Helena, MT 59620-0135, upon expiration.

19. COMPLIANCE WITH MONTANA PREVAILING WAGE REQUIREMENTS

Unless superseded by federal law, Montana law requires that contractors and subcontractors give preference to the employment of Montana residents for any public works contract in excess of \$25,000 for construction or nonconstruction services in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Unless superseded by federal law, each contractor shall ensure that at least 50% of the contractor's workers performing labor on a construction project are bona fide Montana residents. The Commissioner of the Montana Department of Labor and Industry has established the resident requirements in accordance with sections 18-2-403 and 18-2-409, MCA. Any and all questions concerning prevailing wage and Montana resident issues should be directed to the Montana Department of Labor and Industry.

In addition, unless superseded by federal law, all employees working on a public works contract shall be paid prevailing wage rates in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Montana law requires that all public works contracts, as defined in section 18-2-401, MCA, in which the total cost of the contract is in excess of \$25,000, contain a provision stating for each

job classification the standard prevailing wage rate, including fringe benefits, travel, per diem, and zone pay that the contractors, subcontractors, and employers shall pay during the public works contract.

Furthermore, section 18-2-406, MCA, requires that all contractors, subcontractors, and employers who are performing work or providing services under a public works contract post in a prominent and accessible site on the project staging area or work area, no later than the first day of work and continuing for the entire duration of the contract, a legible statement of all wages and fringe benefits to be paid to the employees in compliance with section 18-2-423, MCA. Section 18-2-423, MCA, requires that employees receiving an hourly wage must be paid on a weekly basis.

Each contractor, subcontractor, and employer must maintain payroll records in a manner readily capable of being certified for submission under section 18-2-423, MCA, for not less than three years after the contractor's, subcontractor's, or employer's completion of work on the public works contract.

For current prevailing wage information visit the state website at: http://erd.dli.mt.gov/laborstandard/wagehrprevail.asp

20. COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules, and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications, and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

21. INTELLECTUAL PROPERTY

All patent and other legal rights in or to inventions created in whole or in part under this contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish or otherwise use and authorize others to use, copyrightable property created under this contract.

22. OWNERSHIP AND PUBLICATION OF MATERIALS

The State (and the ordering agency) shall own working papers and end products, but the contractor may keep a copy. The State and the contractor agree that any interpretation of data or conclusions pertaining to this contract and task orders will be submitted for review to the State prior to release. It is further agreed that all public releases pertaining to this contract will be at the discretion of the State. The State must authorize the contractor in writing to release any information. Unless stated otherwise in this contract, upon termination of this contract, all information and data will become the property of the State. A copy may be kept by the contractor.

23. PATENT AND COPYRIGHT PROTECTION

23.1 Third Party Claim. In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify contractor. Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at contractor's expense. Contractor will indemnify the State against all costs, damages, and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

<u>23.2 Product Subject of Claim.</u> If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then contractor may, at its option, procure for the State the right

to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the Contract has been breached.

24. CONTRACT TERMINATION

- **24.1** Termination for Cause. The State may, by written notice to the contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.
- **24.2** Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract, if available funding is reduced for any reason. (18-4-313(3), MCA)

25. STATE PERSONNEL

25.1 State Contract Manager. The State Contract Manager identified below is the State's single point of contact and will perform all contract management pursuant to section 2-17-512, MCA, on behalf of the state. Written notices, requests, complaints or any other issues regarding the contract should be directed to the State Contract Manager.

The State Contract Manager for this contract is:

Robert Oliver, Contracts Officer Room 165 Mitchell Building 125 North Roberts PO Box 200135 Helena MT 59620-0135 Telephone #: (406) 444-0110

Fax #: (406) 444-2529 E-mail: roliver@mt.gov

25.2 State Project Manager. Each using state agency or cooperative purchaser will identify a Project Manager in the project task order. The Project Manager will manage the day-to-day project activities on behalf of the State/Cooperative Purchaser.

26. CONTRACTOR PERSONNEL

- **26.1 Change of Staffing.** Since qualifications of personnel were key in determining which offeror's were selected to be on this term contract, a written notification to the State Agency requesting services of any contractor changes of key personnel must be made prior to entering into negotiations to perform any specific work scope. Contractor shall replace such employee(s) at its own expense with an employee of substantially equal abilities and qualifications without additional cost to the Agency. If these staffing changes cause the contractor to no longer meet the qualifications stated herein, that firm will be removed from the service area of this term contract. Failure to notify the State Agency of staffing changes could result in the contractor being removed from the term contract listing and possible suspension from bidding on other State projects.
- <u>26.2 Contractor Contract Manager.</u> The Contractor Contract Manager identified below will be the single point of contact to the State Contract Manager and will assume responsibility for the coordination of all contract issues under this contract. The Contractor Contract Manager will meet with the State Contract Manager and/or others necessary to resolve any conflicts, disagreements, or other contract issues.

The Contractor Contract Manager for this contract is:

Matt Daniels 5098 Highway 93 South Whitefish, MT 59937 Telephone #: (406) 862-4927 Fax #: (406) 862-4963

E-mail: mdaniels@riverdesigngroup.net

<u>26.3 Contractor Project Manager.</u> The Contractor Project Manager identified below will manage the day-to-day project activities on behalf of the Contractor:

The Contractor Project Manager for this contract is:

Matt Daniels 5098 Highway 93 South Whitefish, MT 59937 Telephone #: (406) 862-4927

Fax #: (406) 862-4963

E-mail: mdaniels@riverdesigngroup.net

27. CONTRACTOR PERFORMANCE ASSESSMENTS

The State may do assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. Contractor will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response, and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

28. TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated, for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

29. CHOICE OF LAW AND VENUE

This contract is governed by the laws of Montana. The parties agree that any litigation concerning this bid, proposal, or subsequent task order must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana, and each party shall pay its own costs and attorney fees. (18-1-401, MCA)

30. SCOPE, AMENDMENT AND INTERPRETATION

<u>30.1</u> <u>Contract.</u> This contract consists of 12 numbered pages, any Attachments as required, RFP # SPB07-1378O, as amended, and the Contractor's RFP response, as amended. In the case of dispute or ambiguity about the minimum levels of performance by the Contractor, the order of precedence of document interpretation is in the same order.

30.2 Entire Agreement. These documents contain the entire agreement of the parties. Any enlargement, alteration, or modification requires a written amendment signed by both parties.

31. EXECUTION

The parties through their authorized agents have executed this contract on the dates set out below.

RIVER DESIGN GROUP, INC.

5098 HIGHWAY 93 SOUTH

WHITEFISH, MT 59937

DEPARTMENT OF ADMINISTRATION STATE PROCUREMENT BUREAU PO BOX 200135 HELENA, MT 59620-0135

BY:		BY:	
(Name/Title)			(Name/Title)
BY:		BY:	
(Signature)			(Signature)
DATE:		DATE:	
Approved as to Legal Content:			
Legal Counsel Agency:	(Date)		
Approved as to Form:			
Procurement Officer State Procurement Bureau	(Date)		

Stream Restoration Services

Proposal for Stream Restoration Design and Implementation Services to the State of Montana



Proposal Submitted To:

State Procurement Bureau
General Services Division
Department of Administration
Room 165, Mitchell Building
125 North Roberts Street
P.O. Box 200135
Helena, Montana 59620-0135



Proposal Submitted By:

River Design Group, Inc. 5098 Highway 93 South Whitefish, Montana 59937

June 19, 2007





STATE OF MONTANA TERM CONTRACT - REQUEST FOR PROPOSAL (RFP)

RFP Number:	RFP Title:
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SPB07-1378O STREAM RESTORATION SERVICES

RFP Response Due Date and Time:

Tuesday, June 19, 2007 2 p.m., Local Time

Number of Pages: 1-40

ISSUING AGENCY INFORMATION		
Procurement Officer:	Issue Date:	
Robert Oliver	May 22, 2007	
State Procurement Bureau		
General Services Division	Phone: (406) 444-2575	
Department of Administration	Fax: (406) 444-2529	
Room 165, Mitchell Building	TTY Users, Dial 711	
125 North Roberts Street		
P.O. Box 200135		
Helena, MT 59620-0135	Website: http://gsd.mt.gov/	

INSTRUCTIONS TO OFFERORS		
Return Sealed Proposal to:	Mark Face of Envelope/Package:	
State Procurement Bureau General Services Division Department of Administration Room 165, Mitchell Building 125 North Roberts Street P.O. Box 200135 Helena, MT 59620-0135	RFP Number: SPB07-13780 RFP Response Due Date: June 19, 2007 Special Instructions:	
IMPORTANT: SEE STANDARD TERMS AND CONDITIONS		

OFFERORS MUST COMPLETE THE FOLLOWING		
Offeror Name/Address: River Design Group, Inc. 5098 Highway 93 South Whitefish, MT 59937	Authorized Offeror Signatory:	
Offeror Phone Number: (406) 862-4927	Offeror FAX Number: (406) 862-4963	
Offeror E-mail Address: mdaniels@riverdesigngroup.net		

OFFERORS MUST RETURN THIS COVER SHEET WITH RFP RESPONSE

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Section 1: Project Overview and Instructions

- 1.0 River Design Group, Inc. understands and will comply.
- 1.1 River Design Group, Inc. understands and will comply.
- 1.2 River Design Group, Inc. understands and will comply.
- 1.3 River Design Group, Inc. understands and will comply.
- 1.4 River Design Group, Inc. understands and will comply.
 - 1.4.1 River Design Group, Inc. understands and will comply.
 - 1.4.2 River Design Group, Inc. understands and will comply.
 - 1.4.3 River Design Group, Inc. reviewed and signed the addendum. The signed addendum is included in Appendix F.
- 1.5 River Design Group, Inc. understands and will comply.
 - 1.5.1 River Design Group, Inc. understands and will comply.
 - 1.5.2 River Design Group, Inc. understands and will comply.
 - 1.5.3 River Design Group, Inc. understands and will comply.
 - 1.5.4 River Design Group, Inc. understands and will comply.
 - 1.5.5 River Design Group, Inc. understands and will comply.
 - 1.5.6 Matt Daniels is authorized to legally bind River Design Group, Inc. to the requirements of the State of Montana's Environmental Services Request for Proposal (RFP Number: SPB07-13780). The signature included below guarantees that the offer has been established without collusion and without effort to preclude the State of Montana from obtaining the best possible supply or service. Proof of authority of Matt Daniels to bind River Design Group, Inc. will be furnished upon request.

_____ June 15, 2007

Matt Daniels

Principal

- 1.5.7 River Design Group, Inc. understands and will comply.
- 1.6 River Design Group, Inc. understands and will comply.
- 1.7 River Design Group, Inc. understands and will comply.



Section 2: RFP Standard Information

- 2.0 River Design Group, Inc. understands and will comply.
- 2.1 River Design Group, Inc. understands and will comply.
- 2.2 River Design Group, Inc. understands and will comply.
- 2.3 River Design Group, Inc. understands and will comply.
- 2.4 River Design Group, Inc. understands and will comply.
- 2.5 River Design Group, Inc. understands and will comply.



Section 3: Scope of Project

- 3.0. River Design Group, Inc. understands and will comply.
- 3.1. River Design Group, Inc. understands and will comply.
- 3.2 River Design Group, Inc. understands and will comply.
- 3.3 River Design Group, Inc. understands and will comply.
- 3.4 River Design Group, Inc. understands and will comply.
- 3.5 Subcontractors
 - 3.5.1 Equipment Operators

Equipment operators are identified in Section 4.1.3.2

3.5.2 Revegetation Specialists

Revegetation subcontractors are identified in Section 4.1.3.2

3.5.3 Subcontractor Qualifications and Experience

Other subcontractors that we plan to use for specific projects are identified in Section 4.1.3.2.

- 3.6 Scope of Work
 - 3.6.1 River Design Group, Inc. understands and will comply.
 - 3.6.2 River Design Group, Inc. understands and will comply.



3.6.3 Experience with Relevant Public Contract Work.

Table	Table 3-1. Experience with Relevant Public Agency Contract Work over the Last 3 Years.			
Year	Project	Public Agency		
2004	Pipe Creek Assessment and Design	Kootenai River Network		
	,	Montana Fish, Wildlife & Parks		
	Jocko River	Confederated Salish and Kootenai Tribes		
	Master Plan, Design and Implementation			
	Hallowat Creek	Montana Fish, Wildlife & Parks		
	Assessment, Implementation and Monitoring			
	Clark Fork River and Blackfoot River	MT Natural Resource Damage Program		
	Restoration Assessment for Milltown Dam	Montana Fish, Wildlife & Parks		
2005	Thompson River Assessment	USDA Forest Service – Lolo National Forest		
	Granite Creek	Idaho Department of Fish and Game		
	Assessment, Design and Implementation			
	Willow Creek	MT Natural Resource Damage Program		
	Assessment and Design	Montana Fish, Wildlife & Parks		
	Hoyt Creek	Natural Resources Conservation Service		
	Design and Implementation	Big Blackfoot Chapter of Trout Unlimited		
	Grave Creek	Kootenai River Network		
	Master Plan, Design, Implementation and Monitoring	Montana Fish, Wildlife & Parks		
		US Fish & Wildlife Service		
2006	Clark Fork River and Blackfoot River	MT Natural Resource Damage Program		
	Restoration Design for Milltown Dam	Montana Fish, Wildlife & Parks		
	Crow Creek Design and Implementation	Montana Fish, Wildlife & Parks		
		USDA Forest Service – Lolo National Forest		
	Mission Creek Design and Implementation	Confederated Salish and Kootenai Tribes		
	Jacobsen Creek	Natural Resources Conservation Service		
	Design and Implementation	Big Blackfoot Chapter of Trout Unlimited		
	Sprague River	US Fish & Wildlife Service		
	Master Plan, Design and Implementation			

3.6.4 Experience with Recent Landowner Projects

Experience with recent landowner projects is documented in Section 4.1.1 References.

3.6.5 Diverse Experience with Stream Restoration and Fish Habitat Improvement Projects

Diverse experience with stream restoration and fish habitat improvement projects is documented in Section 4.1.1 References.

3.6.6 Staff Qualifications and Office Location

Staff qualifications are documented in Section 4.1.3.5. A description of how our office will manage this contract is provided in Section 4.1.3.6. An explanation of our strategic relationship with the State is provided in Section 4.1.3.6.

3.6.7 Working Knowledge of Modern Stream and Fish Habitat Restoration Practices

Working knowledge of modern stream and fish habitat restoration practices is documented in Section 4.1.2



Section 4: Offeror Qualifications

- 4.0. River Design Group, Inc. understands and will comply.
- 4.1. River Design Group, Inc. understands and will comply.

4.1.1 References.

River Design Group, Inc., (RDG) is a Montana based company that provides specialized design-build services for river restoration projects. Established in 2003 in Whitefish, RDG is known for implementing projects that restore impaired rivers to naturally functioning systems. We employ an inter-disciplinary staff with over 70 years combined experience in restoration sciences. Our efforts focus on producing high quality projects that satisfy multiple natural resource objectives and provide economical solutions for successful ecological recovery.

RDG's project approach integrates principles from river morphology, natural channel design, river engineering, riparian and floodplain ecology and adaptive management. Moreover, we are deeply committed to ensuring that our restoration projects happen in a way that considers the context of surrounding communities. We strive to refine our understanding of river systems by consistently overseeing implementation our designs and monitoring our techniques' effectiveness over time.

Project data sheets containing pertinent information for relevant past projects are presented on the following pages. These projects showcase our diverse experience with public and private contract work for stream restoration and fish habitat improvement projects. Summary qualifications, work experience, education and skills for key personnel are provided in Section 4.1.3. Resumes for key personnel are provided in Appendix E.



Project Name: Ashby Creek Restoration Project near Potomac, Montana

Company: River Design Group, Geum Environmental Consulting

Clients: Circle Bar Ranch, Big Blackfoot Trout Unlimited, NRCS, MT

Fish, Wildlife & Parks, Five Valleys Land Trust

Location: Potomac, Montana

Contacts: Mr. Michael Hayes, Landowner (406) 244-5459

Mr. Ron Pierce, FWP (406) 542-5532 rpierce@mt.gov

Project Period: 2005 to 2006

Description: The Restoration Team provided planning, stream restoration design, irrigation structure design, revegetation and construction management services for the Ashby Creek Project on the Circle Bar Ranch. Project details for Ashby Creek include:

Bankfull Channel Width: 5 - 8 ft
Stream Classification: B4, C4, E4
Project Length: 3.1 miles
Wetland Enhancement: > 50 acres

Pre-Design Services

- Reference Reach Surveys
- ✓ Discharge Measurement
- ✓ Vegetation Conditions Analysis

Final Design & Engineering Services

- Hydraulic Modeling and Sediment Transport Modeling
- ✓ Irrigation Diversion Design (2 cfs)
- ✓ Final Design Plans and Specifications
- Revegetation and Wetland Design
- ✓ Material Quantity Calculations and Cost Estimates
- Earthwork and Phasing Plans

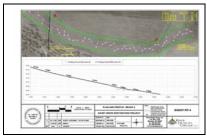
Project and Construction Management Services

- **√** Construction Management
- ✓ Surface Water Diversion and Channel Dewatering Plan
- **√** Coordination with Sponsor Agencies
- Regulatory Permitting and Public / Agency Relations
- As-built Plans and Monitoring

- M. Daniels design and construction management
- J. Muhlfeld assessment and construction management
- √ T. Brandt assessment
- A. Belski survey and mapping



Pre-construction channel condition.



Reach 4 plan and profile design.



Reconstructed channel reach.



In-stream coanda-effect wedge-wire screen built into rock cross vane.



Project Name: Jacobsen Creek Restoration Project near Ovando, Montana

Company: WestWater, RDG, Geum Environmental Consulting

Clients: Landowner, Big Blackfoot Trout Unlimited, NRCS, MT Fish,

Wildlife & Parks

Location: Ovando, Montana

Contacts: Mr. Gary Jacobsen, Landowner (406) 793-5686

Mr. Mark Zuber, NRCS

(406) 829-3395 Mark.Zuber@mt.usda.gov

Project Period: 2005 to 2007

Description: Pressure from grazing practices resulted in loss of riparian vegetation and a narrower, wider channel. The project goals were to restore a high quality spring creek ecosystem capable of support complex habitat suitable for salmonids migrating from the North Fork of the Blackfoot River to spawn. The Restoration Team provided planning, stream restoration design, culvert design, revegetation and construction management services for four project phases totaling over 3 miles in length. Project details include:

Bankfull Channel Width: 3 - 6 ft **Stream Classification:** C4, E4



- ✓ Reference Reach Surveys
- ✓ Discharge Measurement
- √ Vegetation Conditions Analysis

Final Design & Engineering Services

- ✓ Final Design Plans and Specifications
- Revegetation and Wetland Design
- Material Quantity Calculations and Cost Estimates

Project and Construction Management Services

- Construction Management
- ✓ Surface Water Diversion and Channel Dewatering Plan
- **√** Coordination with Sponsor Agencies
- Regulatory Permitting and Public/Agency Relations
- As-built Plans and Monitoring

- G. Decker design and construction management
- ✓ M. Daniels engineering and QA/QC
- √ T. Parker Revegetation assessment and design
- A. Belski survey and mapping



Post-construction channel condition.



Irrigation pivot bridge.



Habitat wood placement



Wetland enhancement.



Project Name: Hoyt Creek Restoration Project near Ovando, Montana

Company: WestWater, RDG, Geum Environmental Consulting

Clients: Landowner, Big Blackfoot Trout Unlimited, NRCS, MT Fish,

Wildlife & Parks

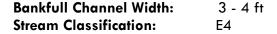
Location: Ovando, Montana

Contacts: Mr. Jim Stone, owner 793-5830 rsranch@blackfoot.net

Ms. Ryen Aasheim 543-6454 ryen@montanatu.org

Project Period: 2005 to 2006

Description: Several years of hay production altered Hoyt Creek morphology. The channel was straightened and then, downcut 5 to 6 feet, resulting in unstable banks. The downcutting lowered the water table, impacted the riparian plant community and impacted habitat for fisheries and other aquatic organisms. The lowering of the water table also increased the demand for stream water for irrigation to maintain hay production rates. The project goals were to restore a high quality spring creek ecosystem at the historical floodplain elevation capable of support complex aquatic habitat. Restoration Team provided planning, stream restoration design, revegetation irrigation diversion design, and construction management services for two project phases totaling over 3 miles in length. Project details include:



Pre-Design Services

- Reference Reach Surveys
- ✓ Discharge Measurement
- ✓ Vegetation and Soils Conditions Analysis

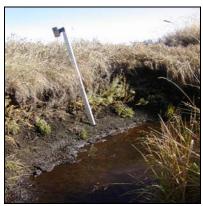
Final Design & Engineering Services

- Final Design Plans and Specifications
- Revegetation and Wetland Design
- Material Quantity Calculations and Cost Estimates

Project and Construction Management Services

- **√** Construction Management
- ✓ Surface Water Diversion and Channel Dewatering Plan
- **√** Coordination with Sponsor Agencies
- Regulatory Permitting and Public/Agency Relations
- As-built Plans and Monitoring

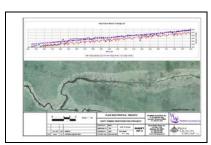
- ✓ G. Decker design and construction management
- ✓ M. Daniels engineering and QA/QC
- ▼ T. Parker revegetation assessment and design.
- ◀ A. Belski survey and mapping



Pre-construction channel condition.



Post-construction channel condition.



Design plan and profile sheet.



Habitat wood placement and pool formation.



Project Name: Grave Creek River Restoration Project

Company: RDG, Geum, WestWater

Client: Landowner, Kootenai River Network, MFWP

Location: Eureka, MT.

Contacts: Mr. Pat Flannigan, Landowner (406) 882-4619

Mr. Jim Dunnigan, FWP

(406) 293-4161 x100 jdunningan@mt.gov

Project Period: 2003 to Present

Project Description: RDG has completed has completed three phases of the Grave Creek restoration project. RDG is currently collaborating with Geum to evaluate vegetation conditions and completed a revegetation effort in 2005. WestWater Consultants provides peer review of proposed designs and assists in construction oversight. RDG is currently finalizing the design for the fourth project on lower Grave Creek. The four projects will result in over 10,000 ft of channel reconstruction on this rain-on-snow driven system. Westslope cutthroat trout and other trout populations have positively responded to the improved habitat.

Bankfull Channel Width: 50 - 60 ft

Stream Classification: C3

Pre-Design Services

- ✓ Reference Reach Surveys
- ✓ Geomorphic Departure Analysis
- **√** Topographic Survey

Final Design & Engineering Services

- Final Design Plans and Specifications
- Revegetation Plan
- ✓ Fish Habitat Structure Design

Project and Construction Management Services

- **√** Construction Management
- ✓ Surface Water Diversion and Channel Dewatering Plan
- **√** Coordination with Sponsor Agencies
- Regulatory Permitting and Public/Agency Relations
- ✓ Monitoring

- J. Muhlfeld project and construction management
- ✓ M. Daniels engineering and construction oversight
- √ T. Parker revegetation assessment and design
- ✓ G. Decker design and QA/QC
- ✓ A. Belski survey and mapping
- √ J. Ferree data collection, monitoring and construction



Streambank bioengineering



Fish Habitat



Channel Reconstruction



Woody Debris Jam



Project Name: Haskill Creek Restoration Project near Whitefish, Montana

Company: RDG, Geum Environmental Consulting Clients: Landowner, MT Fish, Wildlife & Parks

Location: Whitefish, Montana

Contacts: Mr. Bill Voerman, Landowner (406) 862-2715

Mr. Brian Marotz, FWP

(406) 752-5501 bmarotz@mt.gov

Project Period: 2005 to present

Description: Several years of agricultural land use altered Haskill Creek morphology. The channel was straightened causing the channel to downcut several feet, resulting in unstable banks that contribute excessive sediment to Haskill Creek. The project goals were to use low-impact, passive bank treatments to decrease sediment loading and promote floodplain revegetation. The Restoration Team provided planning, stream restoration design, revegetation planning and construction management for bank treatments.

Pre-Design Services

- ✓ Reference Reach Surveys
- Suspended sediment sampling and modeling
- ✓ Vegetation Conditions Analysis

Final Design & Engineering Services

- ✓ Final Design Plans and Specifications
- Revegetation Design
- Material Quantity Calculations and Cost Estimates

Project and Construction Management Services

- Construction Management
- Coordination with Sponsor Agencies
- Regulatory Permitting and Public/Agency Relations
- As-built Plans and Monitoring

- J. Muhlfeld project and construction management
- M. Daniels engineering and construction oversight
- √ T. Parker revegetation assessment and design
- ✓ A. Belski survey and mapping
- J. Ferree monitoring and sampling



Pre-construction channel condition.



Post-construction bankfull event in 2006.



Post-construction bank reshaping.



Project Name: Restoration Plan for the Clark Fork River and Blackfoot River near Milltown Dam

Company: River Design Group, WestWater, Geum Environmental

Clients: State of Montana, Department of Justice

Natural Resource Damage Program

Location: Milltown Dam near Bonner, Montana **Contact:** Mr. Doug Martin (NRDP), (406)444-0234

dougmartin@mt.gov

Mr. Pat Saffel (FWP) (406) 542-5500

psaffel@mt.gov

Project Period: 2003 to Present

Description: Restoration Team members have played an instrumental role in the development of the Restoration Plan for the Clark Fork and Blackfoot rivers following the removal of Milltown Dam. In cooperation with Montana Fish, Wildlife and Parks, the Restoration Team provided the State with technical support and final design services. Project details for the restoration project include:

Pre-Design Services

- ✓ Survey, Photogrammetry, and Hydroacoustic Survey
- Geomorphic, Fishery and Hydraulic Field Investigations
- ▼ Riparian Vegetation Condition Evaluation
- ▼ Topographic and Bathymetric Mapping
- ✓ Sediment Sampling and Rating Curve Development

Final Design Services

- ◀ Hydraulic and Sediment Transport Modeling
- √ Channel Alignments, Dimensions, and Profiles
- Revegetation Plan and Grading Plan
- ✓ Plans and Specifications and Channel Stability Analysis

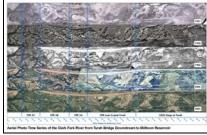
Project Management Services

- ✓ Coordination with Peer Review Team and Trustees
- ✓ Public Relations Support and Presentations
- **√** Subcontractor Management
- ▼ Technical Support for Discussions and Integration between Remedial and Restoration Action

- ✓ M. Daniels project management and design.
- J. Muhlfeld hydraulic field investigations
- √ J. Ferree geomorphic surveys, reporting
- ▼ T. Parker Revegetation plan
- ✓ G. Decker design and field investigations
- ✓ A. Belski survey and mapping



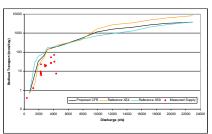
Clark Fork River and Blackfoot River confluence at Milltown Dam.



Aerial image planform analysis 1937-2005.



Measuring channel cross sections on the Clark Fork River near Bonner.



Comparison of measured bedload transport rates with bedload transport prediction models.



Project Name: Jocko River Master Plan and Restoration Plan Implementation

Company: WestWater Consultants, RDG, Geum
Clients: Confederated Salish & Kootenai Tribes

Location: Jocko River near Arlee, Montana

Contact: Mr. Les Evarts (406) 883-2888 lese@cskt.org

Project Period: 2003 to Present

Description: The Restoration Team assisted CSKT with the Jocko River Master Plan, a vision for restoring the Jocko River system to a naturally functioning channel and floodplain. The Hatchery Reach Demonstration Project, the top priority identified in the Master Plan, was designed and constructed in 2004. The project was constructed on tribally-owned lands. Project details for the restoration project include:

Bankfull Channel Width: 50-60 ft Stream Classification: C4

Project Length: 0.8 miles
Floodplain Area: 16 acres

Pre-Design Services

- Survey and Aerial Photogrammetry
- ✓ Geomorphic and Hydraulic Field Investigations
- ✓ Vegetation and Soils Suitability Analyses
- ▼ Topographic and Bathymetric Mapping
- ✓ Wetland Assessment

Final Design & Engineering Services

- Floodplain and Sediment Transport Modeling
- Final Design Plans, Details, and Cost Estimate
- Material Quantity Calculations and Specifications
- Cost Estimate, Reporting and Administration

Project and Construction Management Services

- **√** Construction Management and Haul Route Construction
- Surface Water Diversion and Channel Dewatering Plan
- ✓ Sediment Excavation and Transport for Reuse
- Borrow Stockpile Areas Preparation and BMPs
- ✓ Pollution Control and Erosion Control
- Regulatory Permitting and Client / Agency Relations
- Monitoring and Maintenance

- ✓ G. Decker project and construction management
- ✓ M. Daniels design and hydraulic modeling
- ▼ T. Parker revegetation plan
- J. Muhlfeld geomorphic surveys
- ✓ A. Belski survey and mapping



Jocko River Hatchery Reach prior to reconstruction.



The Hatchery Reach as-built condition.



Engineered log jam in the Hatchery Reach following first year runoff.



Willow growth on a bioengineered bank following a 25-year flood event.



Project Name: Upper Klamath Lake Basin Master Plan and Restoration Plan Implementation

Company: RDG, WestWater Consultants, Geum

Clients: U.S. Fish & Wildlife Service, U.S. Forest Service

Klamath Basin Ecosystem Foundation

Location: Sprague River near Beatty, Oregon

Contact: Ms. Faye Weekley (USFWS), 541-885-2503

Faye_Weekley@fws.gov

Project Period: 2003 to Present

Description: The Restoration Team has provided planning, engineering, final design, revegetation and construction management services for 13 river restoration projects in the Upper Klamath Lake Basin. Project details for the Restoration Team's largest project, the Winding Sprague River Ranch Restoration Project include:

Bankfull Channel Width:90-115 ftProject Length:2.5 milesFloodplain Area:440 acresWetland Enhancement:20 acres

Pre-Design Services

- Survey and Aerial Photogrammetry
- Field Investigations, Soils Testing and Evaluation
- ▼ Topographic and Bathymetric Mapping
- Grading Plan Development

Final Design & Engineering Services

- Hydraulic and Sediment Transport Modeling
- ✓ Final Design Plans, Specifications, and Bid Packages
- Revegetation and Wetland Design
- Material Quantity Calculations and Cost Estimates
- **√** Earthwork and Phasing Plans

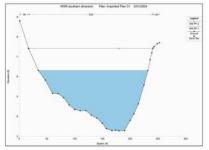
Project and Construction Management Services

- Construction Management and Haul Route Construction
- Surface Water Diversion and Channel Dewatering Plan
- ✓ Borrow Stockpile Areas Preparation
- Coordination with Peer Review Team and Agencies
- Regulatory Permitting and Public / Agency Relations
- Monitoring and Maintenance

- T. Brandt project and construction management
- M. Daniels design and hydraulic modeling
- √ T. Parker revegetation plan
- J. Muhlfeld geomorphic surveys
- ✓ A. Belski survey and mapping



The Sprague River conceptual restoration plan.



Hydraulic modeling.



River reconstruction on the Sprague River.



River and floodplain reconstruction in an abandoned meander on the Sprague River.



Project Name: Therriault Creek Restoration, Eureka Montana

Company: RDG, WWC, Geum

Client: Kootenai River Network, USFWS, MFWP

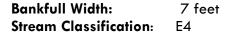
Location: Eureka, MT.

Contact: Ms. Rox Rogers, USFWS (406) 758-6880

Rox_Rogers@fws.gov

Project Period: 2003 - 2006

Project Description: Therriault Creek is an important historical westslope cutthroat and bull trout tributary to the Tobacco River. The stream was channelized and severely incised relative to its historical condition. The project involved constructing 9,000 ft of E stream type on the former floodplain. Project construction included placement of cobble grade control, over 200 pieces of wood, and site revegetation. Project goals include improving channel function and channel-floodplain connectivity, diversifying fish habitat, and improving the fish migration corridor between the Tobacco River and headwater spawning areas.



Pre-Design Services

- Field Investigations
- ▼ Topographic and Bathymetric Mapping
- ✓ Vegetation Conditions Analysis

Final Design & Engineering Services

- ◀ Hydraulic and Sediment Transport Modeling
- ✓ Final Design Plans, Specifications, and Bid Packages
- Revegetation and Wetland Design
- Material Quantity Calculations and Cost Estimates
- Earthwork and Phasing Plans

Project and Construction Management Services

- **√** Construction Management
- ✓ Water Diversion and Channel Dewatering Plan
- **√** Coordination with Sponsor Agencies
- Regulatory Permitting and Public / Agency Relations
- Monitoring

- J. Muhlfeld project and construction management, design
- M. Daniels design and hydraulic modeling
- √ T. Brandt habitat assessment
- ✓ A. Belski survey and mapping



Former incised channel condition.



Channel construction.



As-built reconstructed channel.



Channel and adjacent floodplain wetland 1 year after project.



Project Name: Pilgrim Creek Restoration Project near Noxon, Montana

Company: River Design Group, Inc.

Clients: Lower Clark Fork River Watershed Group

Location: Noxon, Montana (Lower Clark Fork River)

Contact: Mr. Mike Miller, (406)-847-5560 mmiller@blackfoot.net

Project Period: 2005 to present

Description: RDG prepared channel restoration plans for Pilgrim Creek on privately owned land in the Lower Clark Fork River valley near Noxon. In cooperation with the landowner and FWP, the project design will decrease bank-derived sediment sources and improve fish habitat for native fish species by reconstructing approximately 1,200 feet of stream channel and floodplain.

Bankfull Width: 30 feet **Stream Classification:** C4

Pre-Design Services

- GPS Survey and Geodetic Control Network
- ✓ Geomorphic, Hydraulic and Fish Habitat Analyses
- ✓ Vegetation Surveys and Wetlands Delineation
- ✓ Sediment Source Inventory
- ✓ Watershed Assessment

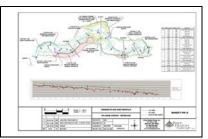
Design Services

- Hydraulic and Flood Series Modeling
- √ Topographic Survey and Grading Plan Development
- Design Plans and Specifications
- ✓ Bioengineering Streambank Stabilization Plans
- Material Quantity Surveys and Calculations

Project and Construction Management Services

- Permitting
- Coordination with Watershed Group
- ✓ Construction Management and Contractor Oversight
- Revegetation Management
- As-Built Plans
- ✓ Monitoring Surveys

- ✓ M. Daniels design and construction management
- J. Muhlfeld design and construction management
- √ T. Brandt assessment, design and construction management
- ✓ A. Belski survey and mapping
- J. Ferree construction management



Design plan and profile.



Before - eroding bank colonized with reed canary grass.



After – increased floodplain width, re-sloped bank, large woody debris, bioengineering and willow cuttings.



Log cross vane providing grade control and the end of the project.



4.1.2 Resumes/Company Profile and Experience.

Since its inception in August 2003, RDG has worked exclusively on river restoration projects. Our inter-disciplinary team capitalizes on the experience of specialized staff. Our constant involvement with river science and restoration projects allows us to remain current with successful restoration practices from both an academic and applied perspective. In addition to our applied experience, we regularly present at conferences, attend continuing education classes and complete river restoration and riparian management training programs to complement our academic backgrounds. The Restoration Team maintains relationships with top practitioners in the field of river restoration. We have relied on advice from Dr. David Rosgen of Wildland Hydrology, Inc. and Dr. Craig Fischenich of the U.S. Army Corps of Engineers. These individuals are at the forefront of river restoration sciences. The Restoration Team will continue to work with these professionals and others in an effort to produce the best possible restoration projects. Relevant past projects are identified in Section 4.1.1. Summary qualifications, work experience, education and skills for key personnel are provided in Section 4.1.3. Resumes are provided in Appendix E.

Working Knowledge of Modern Stream and Fish Habitat Restoration Practices

Several approaches exist for stream and fish habitat restoration practices. Methods are generally categorized as analog, empirical or analytical methods. We use analog methods for field measurements of pattern, profile and cross section from study reaches for design criteria. We use empirical methods in the form of regime equations, regional hydraulic geometry relationships and dimensionless ratios to predict design dimensions. We use analytical methods to employ numerical models to simulate hydraulic conditions that satisfy design requirements. Each method has inherent theoretical assumptions and limitations that influence results; therefore, an assessment usually involves using a combination of several methods and relies on experience, practicality and judgment from the practitioner to interpret the results.

RDG uses several methods suitable for restoration designs. Our intent is not to compare and contrast methods, but rather demonstrate that the project will satisfy performance criteria, mitigate for constraints and exhibit the desired condition. More specifically, the project must demonstrate an equilibrium condition for which the available water and sediment supplies are routed through the system without causing levels of aggradation or degradation that disrupt natural processes, lead to a departure from the desired condition or jeopardize infrastructure.

Typically, design criteria are driven by a desired restoration condition. We advocate desired conditions that represent a naturally functioning, stable channel and floodplain. There are, however, site constraints that affect natural processes, and therefore, must be considered in the design. To achieve a balance between desired conditions and project constraints, performance criteria based on measured metrics from river reaches that exhibit not only the desired ecological condition, but also an acceptable level of natural stability are developed for use in the design process. As such, objectives for our restoration practices are:

- Measure the desired condition
- Validate the performance/stability of the desired condition
- Apply the performance of the desired condition to the project area
- Evaluate and predict the performance of the project area



4.1.3 Ability to Meet Supply Specifications.

4.1.3.1 Experience

Applicable projects are presented in Section 4.1.1. The company listed first on the data sheet is the prime contractor.

4.1.3.2 Subcontractor Experience

Table 4-1. List of RDG's proposed subcontractors for Term Contract SPB07-13780			
Subcontractor	Expertise	Contact Person	
Revegetation Specialists			
Geum Environmental Consulting, Inc.	Revegetation Planning and Design	Tom Parker	
Watershed Restoration, Inc.	Revegetation Implementation	Sherry Meyers	
Great Bear Restoration, Inc.	Revegetation Implementation	Mark Rohweder	
Equipment Contractors			
TNT Excavating	Stream Restoration Implementation	Ty Smith	
Kirby Excavating	Stream Restoration Implementation	Don Kirby	
Elk Creek Contracting	Stream Restoration Implementation	John Fitchett	
Rocky Mountain Excavating	Stream Restoration Implementation	Jardy Kyner	
Glacier Excavation and Rock	Stream Restoration Implementation	Bob Cuffe	
Rock-n-River Excavating	Stream Restoration Implementation	Chance Kirby	
All Terrain Excavating	Stream Restoration Implementation	Bruce Newby	
Other Subcontractors			
WestWater Consultants, Inc.	Stream Restoration Design	Gary Decker	
Reclamation Research Group, LLC	Soil Geochemistry	Stuart Jennings	

Geum Environmental Consulting, Inc, based in Hamilton, MT. specializes in large-scale, collaborative riparian and floodplain restoration planning for rivers and streams that involve diverse stakeholders and regulatory entities. Staff have experience implementing all phases of riparian and wetland restoration including site characterization, permitting, project design, construction and field crew oversight, and project monitoring. We define restoration as creating site conditions to sustain ecological processes that will support project objectives. Services include:

- Ecological Restoration and Revegetation Planning
- Revegetation and Bioengineering Design and Construction Oversight
- Biological Assessments for Endangered Species Act Compliance
- Wetland Restoration and Mitigation Design, Planning and Construction Oversight
- Riparian and Wetland Assessment
- Wetland Delineation
- Fish Habitat Assessments and Surveys
- Stream and Wetland Permitting
- GIS and Natural Resource Database Application Design and Management, including Web Applications
- Grant Writing to support Restoration Projects

Geum Environmental Consulting, Inc. has the infrastructure and equipment to support all aspects of our revegetation planning and assessments. Our staff maintains professional



memberships/affiliations to relevant organizations, such as Society for Ecological Restoration, Society of Wetland Scientists, and American Fisheries Society.

Watershed Restoration Group, Inc. (WRG) has provided native plant installation, seed collection, and related services to clients in western Montana and Idaho since 2002. Prior to incorporating in May 2007, business was conducted under the name Bitterroot Natural Landscapes. Our business is located in Hamilton MT, and a large percentage of our work force is based in Missoula. We have the advantage being able to mobilize on short notice to provide restoration throughout western Montana. In addition to the key personnel on staff, our company maintains contact with a large group of seasonal workers that specialize in revegetation, reforestation, and ecological restoration. This provides our company the flexibility to mobilize experienced crews as needed to meet variable project demands, large or small.

Great Bear Restoration, (GBR) based in Hamilton, MT has extensive botanical and horticultural expertise as well as greenhouse facilities, seed cleaning equipment and seed storage facilities. Our staff has experience in the propagation and management of native plant materials as well as the development of unique horticultural products, including pre-vegetated coir products. Our primary focus will be overall project management, coordination with the client, seed cleaning and storage, plant propagation, coordinating of the production cycle with our team member, and reporting as necessary. GBR was established as a "business-within-a-business" of HIPinc in October 2006. Although the company is new, the staff has over 42 years combined experience in seed collection and plant nursery services. We have professionals in restoration ecology, horticulture/seed biology, forestry, and range ecology all of whom have dedicated their careers to restoring land.

TNT Excavating is a heavy equipment contractor specializing exclusively in stream restoration implementation. Since 2000, TNT has successfully completed 39 stream restoration and fish habitat improvement projects in the Blackfoot Valley and Upper Clark Fork River region. Located in Ovando, MT TNT's owner, Ty Smith, has completed 40 hours of training with Dr. David Rosgen of Wildland Hydrology, Inc., and is scheduled to complete an additional 120 hours of training in July 2007. TNT efficiently completes projects with a combination of experience and specialized equipment. All of TNT's equipment, including dump trucks, are track-operated thus minimizing disturbance during construction. Jacobsen Creek, Hoyt Creek and Ashby Creek are three projects completed by TNT that are featured in Section 4.1.1.

Kirby Excavating based in Hamilton, Montana works primarily with WestWater Consultants, Inc. Don Kirby is one of the more experienced operators engaged in restoration projects in western Montana. Kirby Excavating has completed over 25 restoration projects in western Montana since 1998, including the Jocko River project featured in Section 4.1.1.

Elk Creek Contracting based in Heron, Montana has worked with RDG on eight restoration projects primarily in the Lower Clark Fork River Region since 1997. John Fitchett is the primary operator for Elk Creek Excavating. Additional technicians and laborers are hired as necessary to complete projects. The Pilgrim Creek project featured in Section 4.1.1 was constructed by Elk Creek Contracting.

Rocky Mountain Excavating (RME) based in Whitefish, Montana worked with RDG on the Therriault Creek and Haskill Creek restoration projects featured in Section 4.1.1. RME's owner, Jardy



Kyner, is a skilled excavator operator with a deft touch and is knowledgeable of stream processes. RME has been involved with restoration projects for 4 years.

Glacier Excavation and Rock also based in Whitefish, Montana worked with RDG on the Grave Creek project featured in Section 4.1.1. RDG plans to collaborate with Mr. Cuffe on other restoration projects in the Kootenai River Network Region. Mr. Cuffe has been involved with restoration projects for 4 years.

Rock-n-River Excavating based in Pueblo, Colorado is run by Chance Kirby, former operator for Kirby Excavating. Chance Kirby has trained with and completed restoration projects for Mr. Dave Rosgen, founder of Wildland Hydrology, Inc. Chance has completed the suite of four restoration training courses offered by Wildland Hydrology, Inc. Rock-n-River Excavating has been in business since 2007, but the operator has completed over 30 stream restoration and fish habitat improvement projects in Montana, Colorado, Washington, Tennessee and North Carolina while employed at other companies.

All Terrain Excavating based in Polson, MT is run by brothers Bruce and Rick Newby. Using a unique piece of equipment called a Spyder Excavator, All Terrain Excavating specializes in projects with difficult access, tight working conditions, steep slopes and sensitive areas requiring minimal disturbance. Since, 1992, All Terrain Excavating has completed over 40 stream restoration and fish habitat improvement projects. All-Terrain Excavating worked with RDG on a difficult segment of the Ashby Creek project, which is featured in Section 4.1.1.

WestWater Consultants, Inc. is a Montana based company focused on watershed assessment and river restoration. Based in the Bitterroot Valley in Corvallis, WWC's owner, Gary Decker, is a hydrologist with 28 years of river restoration assessment and design experience. WWC has developed a reputation for successfully implementing river restoration projects that restore natural river and floodplain processes. WWC has completed river restoration projects in six states throughout the Intermountain West.

Reclamation Research Group, LLC is an environmental services company emphasizing ecological restoration of degraded riparian and upland habitats. Staff members draw from decades of experience of pioneering land rehabilitation research focusing on the interplay of soil, water and vegetation in disturbed environments. Company emphasis is placed on understanding geochemical processes in soil which allow for the establishment and persistence of native vegetation. A long working history in metal contaminated floodplains allows for advancement of mitigation and management strategies for risks posed by elevated trace metal and arsenic levels. Riparian restoration is fostered by science-based decision making and grounded by project experience. Reclamation Research Group brings together multi-disciplinary expertise in soil, geochemistry, and native vegetation reestablishment to derive pragmatic solutions to complex environmental problems encountered in degraded stream corridors.

4.1.3.3 Staff Qualifications

Personnel assigned to work on this contract and their respective billing rates are identified on the price cost sheets in Section 5.



4.1.3.4 Formal Training

Staff qualifications are identified in Section 4.1.3.5. Resumes are provided in Appendix E.

4.1.3.5 Staffing

Listed below are key personnel dedicated to this contract.

Matt Daniels, P.E., Project Manager, has over 15 years of experience practicing hydraulic engineering and has participated in design and construction of over 50 river restoration and hydraulic engineering projects. Located in RDG's Whitefish office, Matt has a B.S. in Civil Engineering and is a licensed engineer in Montana. In addition to his undergraduate education, Matt has completed continuing education in restoration sciences through Dr. David Rosgen's courses offered through Wildland Hydrology, Inc. As a project manager at RDG, Matt is responsible for managing an inter-disciplinary staff composed of hydrologists, fluvial geomorphologies, ecologists and biologists. In addition, Matt participates in all stages of RDG's projects including conceptual design, feasibility analysis, final design and construction management. Matt manages RDG's regional focus areas in the Blackfoot Valley and Upper Clark Fork Valley.

John Muhlfeld, Senior Hydrologist/Project Manager, oversees RDG's pre-design and field investigation services. Located in RDG's Whitefish office, John provides technical support for field investigations, hydrologic analyses, sediment and hydrologic modeling, river and floodplain restoration designs, and construction management. During 14 years of professional experience, John has managed over 60 watershed related projects throughout western Montana, Idaho and Oregon while an employee with Land and Water Consulting, Water Consulting, and now as a principal in RDG. John has a B.S. in Geoscience and has completed the suite of four restoration courses offered by Wildland Hydrology, Inc. John manages RDG's regional focus areas in the Kootenai River Network, Lower Clark Valley, and recently acquired projects on the east side of the continental divide in the Madison River Valley. He is regularly asked to present at regional conferences about river restoration practices.

Troy Brandt, Fisheries Biologist, manages RDG's Corvallis, Oregon office and has over 10 years of experience with stream restoration projects. In addition to completing the suite of restoration courses offered by Wildland Hydrology, Inc., Troy earned a Masters Degree in Environmental Studies-Aquatic Ecology from the University of Montana. Troy will be available to provide quality control and technical review for project deliverables. Troy will also assist with research, performance criteria development, monitoring plans, and technical writing. Troy's application of natural channel design principles in numerous stream restoration projects make him uniquely qualified for pairing fisheries requirements with restoration treatments. Troy participates in all levels of restoration projects including data collection, data analysis, design, construction management and monitoring.

Jonathan Ferree, Fluvial Geomorphologist, is an energetic field team leader who assists in data collection, data analysis, and construction oversight. With over 10 years of experience, he manages RDG's geomorphic database and prepares data summaries for project deliverables using RiverMorph® software. Jonathan's familiarity with USGS stream gaging and sediment collection techniques are key components to RDG's restoration methodologies. Jonathan obtained



a Masters degree in Fluvial Geomorphology from the University of Wyoming and has completed three courses in river restoration through Wildland Hydrology, Inc.

Andy Belski, P.L.S., Surveyor-Information Technology Specialist, manages RDG's surveying and mapping services. Andy will be responsible for orchestrating topographic and hydrographic surveys, ensuring map accuracy, managing imagery and survey databases, and providing information technology support for design tasks. Andy has over 14 years of experience in applied surveying and computer aided design. With an Associates degree in land survey, Andy is an integral member of the Restoration Team. Andy's expertise in land survey, remote sensing techniques (e.g. AutoCAD, imagery rectification, LiDAR), and time-trend aerial imagery production is an essential tool in RDG's ability to assess river corridor alterations over time and space.

Gary Decker, Senior Hydrologist, is the owner of WestWater Consultants, Inc in Corvallis, Montana. During his 28 years of experience, Gary has continually refined his understanding of alluvial river systems by consistently overseeing implementation of his designs and monitoring his techniques' effectiveness over time. Lessons learned from project successes and failures have been passed along to RDG staff through the mentorship provided by Gary. Gary has experience as a professional hydrologist practicing in the fields of hydrology, watershed assessment, watershed management, watershed and stream restoration, water rights and geomorphology. His primary responsibilities are river assessment, restoration design and implementation. In addition to participating in over 200 projects, his experience developing Master Plans for restoration of extended reaches of unstable rivers; hydraulic, water quality and sediment transport monitoring and modeling; floodplain evaluation, mapping, revision (CLOMR) and mitigation. Other experience includes fish passage and culvert crossing evaluation, dam removal, and expert witness testimony in water rights, geomorphic studies, and flood damage assessment. Gary has a B.S. in hydrology from Colorado State University and has completed the suite of restoration courses offered by Dr. David Rosgen of Wildland Hydrology, Inc.

Tom Parker, Principal Ecologist, is President at Geum Environmental Consulting, Inc. in Hamilton, Montana. With a Masters Degree in Resource Conservation from the University of Montana, Tom will be the lead revegetation specialist and will oversee field investigations and preparation of final river, floodplain and wetland revegetation designs. In addition, Tom will provide technical advice in support of restoration designs and is able to provide technical support for issues related to wetland function and related crediting. Tom's technical area of emphasis is ecological restoration planning and design with an emphasis on riparian and wetland areas. He has applied his soil bioengineering expertise to stream restoration, landslides, roadsides, and surface mine reclamation. He conducts wetland delineations, wetland assessments and wetland permitting for federal and state regulated wetlands. As an environmental consultant in western Montana, Tom has previously managed Herrera Environmental Consultants' Missoula office, worked independently, and directed Bitterroot Restoration's consulting program.

4.1.3.6 Facilities

With offices in Whitefish, Montana and Corvallis, Oregon, RDG maintains a staff of 15 interdisciplinary employees with education and experience in hydrology, fluvial geomorphology, biology, surveying and engineering. RDG would manage this contract from the Whitefish office, where 12 employees are available to service the contract. In addition, we recognize the importance of vegetation in stream restoration projects; therefore, we frequently team with riparian ecologists and botanists from Geum Environmental Consultants, Inc. in Hamilton, MT to



provide comprehensive restoration projects. Moreover, we recognize the importance of peer review and collaboration in stream restoration, thus, we also team with WestWater Consultants, Inc. in Corvallis, MT to provide cost-effective quality assurance and quality control for our restoration concepts and designs.

We envision the strategic relationship between RDG and the State as one of *regional focus areas*. While RDG is committed to servicing projects and clients throughout Montana, we dedicate project managers to regional restoration programs. Currently, RDG's Montana focus areas include the Kootenai River Network, Blackfoot Valley, Lower Clark Fork Valley and Upper Clark Fork Valley. These areas represent regions where successful restoration programs are established through cooperative efforts from multiple agencies including Montana Fish, Wildlife & Parks, Natural Resources Conservation Services, Montana Natural Resource Damage Program, Confederated Salish and Kootenai Tribes and several other non-profit organizations and watershed groups. This strategic relationship allows RDG to develop trust among landowners and stakeholders through continued involvement in regional watershed-scale programs.



Section 5: Cost Proposal

5.0 Cost Proposal

PERSONNEL	NAMES	RATE (\$/HOUR)
Project Manager	Matt Daniels, John Muhlfeld	\$100
Senior Hydrologist	John Muhlfeld	\$90
Project Hydrologist	Jonathan Ferree	\$75
Hydrology Technician	Ted Belcer	\$70
Fluvial Geomorphologist	Jonathan Ferree	\$75
Fisheries Biologist	Troy Brandt	\$90
GIS Specialist	Selita Ammondt	\$70
Senior Engineer	Matt Daniels, Scott Wright Mitch Price	\$110
Project Engineer	Mitch Price, Chris Smith Nate Wyatt	\$90
Engineering Technician	Chris Smith, Nate Wyatt	\$80
CAD Technician	Nate Wyatt, Kris Caister	\$70
Surveyor	Andy Belski	\$90
Survey Technician	Kris Caister, Ted Belcer, Josh Lenderman	\$70
Administrative Assistant	Sherri Tripp	\$45
TRAVEL		
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of personnel rate
EQUIPMENT		-
GPS (Survey Grade)		\$300/day
Total Station		\$10/hr
Digital Camera		\$10/day
Aqua Calc		\$50/day
Sediment Samplers		\$50/day
Field Supplies		At cost
MISCELLANEOUS		
Administrative time for billing		\$60/hr
Photocopies		\$0.10/page
Faxes		\$0.25/page
Plots (color)		\$5/plot
Long-distance telephone calls		At cost
Postage		At cost
Laboratory Fees		At cost

River Design Group, Inc. applies a variable mark up on pass-through costs. This cost is related to project management time required to manage subcontractors and is agreed upon with the client prior to billing.



REVEGETATION SUBCONTRACTOR NAME: G	eum Environmenta	l Consulting, Inc.
PERSONNEL	NAMES	RATE (\$/HOUR)
Principal	Tom Parker	\$85
Fisheries Biologist	Amy Sacry	\$80
Vegetation specialist/wetland ecologist	Tom Parker	\$80
,	Amy Sacry	\$75
	Sarah Flynn	\$75
	Erin Belmont	\$65
Vegetation specialist-upland	Tom Parker	\$75
	Sarah Flynn	\$75
	Erin Belmont	\$65
Clerical	Lauren Parker	\$35
Attendance at meetings	N/A	100% of personnel rate
EQUIPMENT		RATE
Laser level	\$25/day	
Geo Explorer XT Global Positioning System		55/day
Digital Camera	\$10/day	
TRAVEL	STATE RATE	
Mileage (standard auto)	0.485	0.485/mile
Lodging	Reasonable Rate	Reasonable Rate
Meals	\$23/day	\$23/day
Hourly rate during travel	N/A	\$45/hr

Additional costs of doing business that may be applicable:

SERVICE	COST
Printing Costs	
8 x 10 b/w	\$0.25/page
8 x 10 color	\$0.35/page
11 x 17 b/w	\$1.00/page
11 x 17 color	\$1.00/page
Larger than 11 x 17	\$6.00/plot
Long Distance Phone Calls	Direct cost of call
Faxes	\$0.25/page
Photocopies	\$0.10/page
Postage Costs	Direct cost of postage



PERSONNEL	NAMES	RATE (\$/HOUR)
Owner	Ty Smith	\$45
	,	·
TRAVEL		
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
FOLUDATAIT		
EQUIPMENT 200N C F		¢1.40
320BL Cat Excavator		\$140
CD110R-2 Komatsu Track Truck		\$135
10yd		
D5C Cat Dozer Western Star 10yd Dump Truck		\$90 \$75
Dump Truck with Tiltbed Trailer		\$95
Donip Hock will Hilbed Haller		ψ 7 3
MISCELLANEOUS		
MISCELLAILOUS		



PERSONNEL	NAMES	RATE
Principal/Project Manager	Don Kirby	\$50/hr
Attendance at meetings	N/A	100% of personnel
		rate
EQUIPMENT		Rate with prevailing
		wage rates
Excavator with thumb (Komatsu 15		\$135/hr
Excavator with thumb (Komatsu 20	00 or CAT 320 class)	\$145/hr
Excavator mobilization		Varies, avg. \$5/mile
Articulated loader (Komatsu 320 c	<u> </u>	\$95/hr
•	cubic yard bucket)	
Articulated loader mobilization		Varies, avg. \$5/mile
Scraper (John Deere 860 or CAT 613 class)		\$125/hr
(11-13 yard self-loading)		
Scraper mobilization		Varies, avg. \$5/mile
Dozer (CAT D7F class)		\$125/hr
Dozer mobilization		Varies, avg. \$5/mile
Dump truck (highway class with mi	nimum 10 yd. box)	\$85/hr
Dump truck mobilization		Varies, avg. \$5/mile
Dump truck (6X6 off road)		\$115/hr
Dump truck mobilization		Varies, avg. \$5/mile
Bobcat (small loader) (minimum 1	cubic yard bucket)	\$70/hr
Bobcat mobilization		Varies, avg. \$3/mile
Four wheel ATV		\$45/hr
TRAVEL		RATE
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of billing rate



PERSONNEL	NAMES	RATE
Principal/Project manager	John Fitchett	\$50/hr
Attendance at meetings	N/A	100% of personnel
		rate
EQUIPMENT		Rate with prevailing
		wage rates
Excavator with thumb (Komatsu	,	\$135/hr
Excavator with thumb (Komatsu	200 or CAT 320 class)	\$145/hr
Excavator mobilization		Varies, avg. \$5/mile
Articulated loader (Komatsu 32)	•	\$95/hr
· · · · · · · · · · · · · · · · · · ·	ubic yard bucket)	
Articulated loader mobilization		Varies, avg. \$5/mile
Scraper (John Deere 860 or CAT 613 class)		\$125/hr
(11-13 yard self-loadir	g)	
Scraper mobilization		Varies, avg. \$5/mile
Dozer (CAT D7F class)		\$125/hr
Dozer mobilization		Varies, avg. \$5/mile
Dump truck (highway class with minimum 10 yd. box)		\$85/hr
Dump truck mobilization		Varies, avg. \$5/mile
Dump truck (6X6 off road)		\$11 <i>5/</i> hr
Dump truck mobilization		Varies, avg. \$5/mile
Bobcat (small loader) (minimum	1 cubic yard bucket)	\$70/hr
Bobcat mobilization		Varies, avg. \$3/mile
Four wheel ATV		\$45/hr
Snowmobile		\$45/hr
TRAVEL		RATE
Mileage		State rate
Mileage (heavy duty)		Varies, avg. \$3/mile
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of billing rate



PERSONNEL	NAMES	RATE
Principal	Jardy Kyner	\$40/hr
Attendance at meetings	N/A	80% of personnel rate
EQUIPMENT		Rate with prevailing wage rates
•	omatsu 150 or CAT 315 class)	\$135/hr
•	omatsu 200 or CAT 320 class)	\$145/hr
Excavator mobilization		Varies, ave. \$5/mile
Articulated loader (Komatsu 32	<u> </u>	\$95/hr
•	cubic yard bucket)	
Articulated loader mobilization		Varies, ave. \$5/mile
Scraper (John Deere 860 or CAT 613 class)		\$125/hr
(11-13 yard self-loading)		
Scraper mobilization		Varies, ave. \$5/mile
Dozer (CAT D7F class)		\$125/hr
Dozer mobilization		Varies, ave. \$5/mile
Dump truck (highway class with minimum 10 yd. box)		\$85/hr
Dump truck mobilization		Varies, ave. \$5/mile
Dump truck (6X6 off road)		\$115/hr
Dump truck mobilization		Varies, ave. \$5/mile
Bobcat (small loader) (minimum 1 cubic yard bucket)		\$70/hr
Bobcat mobilization		Varies, ave. \$3/mile
TRAVEL		RATE
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of billing rate



PERSONNEL	NAMES	RATE
Principal	Bob Cuffe	\$50/hr
Attendance at meetings	N/A	80% of personnel rate
EQUIPMENT		Rate with prevailing wage rates
•	omatsu 150 or CAT 315 class)	\$135/hr
•	omatsu 200 or CAT 320 class)	\$145/hr
Excavator mobilization		Varies, avg. \$5/mile
Articulated loader (Komatsu 3	•	\$95/hr
	cubic yard bucket)	
Articulated loader mobilization		Varies, avg. \$5/mile
Scraper (John Deere 860 or CAT 613 class)		\$125/hr
(11-13 yard self-loading)		
Scraper mobilization		Varies, avg. \$5/mile
Dozer (CAT D7F class)		\$125/hr
Dozer mobilization		Varies, avg. \$5/mile
Dump truck (highway class with minimum 10 yd. box)		\$85/hr
Dump truck mobilization		Varies, avg. \$5/mile
Dump truck (6X6 off road)		\$115/hr
Dump truck mobilization		Varies, avg. \$5/mile
Bobcat (small loader) (minimum 1 cubic yard bucket)		\$70/hr
Bobcat mobilization		Varies, avg. \$3/mile
TRAVEL		RATE
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of billing rate



PERSONNEL	NAMES	RATE
Principal	Chance Kirby	\$50/hr
Attendance at meetings	N/A	80% of personnel rate
EQUIPMENT		Rate with prevailing wage rates
Excavator with thumb (Ko	matsu 150 or CAT 315 class)	\$135/hr
Excavator with thumb (Ko	matsu 200 or CAT 320 class)	\$1 <i>45/</i> hr
Excavator mobilization		Varies, avg. \$5/mile
Articulated loader (Komatsu 32	•	\$95/hr
•	ubic yard bucket)	
Articulated loader mobilization		Varies, avg. \$5/mile
Scraper (John Deere 860 or CAT 613 class)		\$125/hr
(11-13 yard self-loading)		
Scraper mobilization		Varies, avg. \$5/mile
Dozer (CAT D7F class)		\$125/hr
Dozer mobilization		Varies, avg. \$5/mile
Dump truck (highway class with minimum 10 yd. box)		\$85/hr
Dump truck mobilization		Varies, avg. \$5/mile
Dump truck (6X6 off road)		\$115/hr
Dump truck mobilization		Varies, avg. \$5/mile
Bobcat (small loader) (minimum 1 cubic yard bucket)		\$70/hr
Bobcat mobilization		Varies, avg. \$3/mile
TRAVEL		RATE
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		100% of billing rate



PERSONNEL	NAMES	RATE (\$/HOUR)
Equipment Operator / Truck Driver Company President	Bruce Newby	\$35
Equipment Operator Company Vice President	Rick Newby	\$35
TRAVEL		
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
EQUIPMENT		
The rates below include operators wage		
Schaeff HS-40-C Walking Excavator	Spider Excavator	\$165
Schaeff HS-40-D Walking Excavator	Spider Excavator	\$165
Ford L-9000 12-14 Cu Yd. Dump Truck	Heavy Truck	\$80
Chev 1 Ton 4 WD Flat Bed Dump Truck	Light Truck	\$60
MISCELLANEOUS		
Mobilization For Each Excavator	Dump Truck Rate Round Trip	\$75
Additional equipment is available by rental and n required plus operator costs.	nobilization costs are variable	depending on equipme
Rental Track Loaders, Rubber Tire		
Backhoe, Rubber Tire Loaders, Track		
Excavators, Skidsteers, etc.		\$35



PERSONNEL	NAMES	RATE (\$/HOUR)
Principal Hydrologist	Gary Decker	\$90
Project Manager	Gary Decker	\$80
Project Hydrologist	Mark VanderVelden	\$70
Project Hydrologist/Soils Scientist	Dennis Gordon	\$70
Hydrology Technician	Varies	\$60
TRAVEL		
Mileage		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		50% of billing rate
EQUIPMENT		
Scuba Dive gear		\$100/day
4 inch trash pumps (does not include fuel)		\$50/day, \$200/wk
RV lodging- remote		\$25/day/\$100/wk
ATV		\$50/day, \$200/wk
16' Boat, trailer fully equipped		\$75/day, \$250/wk
Portable Generator (3000 watt)		\$25/day/ \$100/wk
Other equipment rates available specific to project		
MISCELLANEOUS		
Administrative time for billing	Wendy Decker	\$30
Photocopies-prints	8.5x11 11x17	\$0.10 BW, \$1.0 color \$0.20 BW, \$2.0
	11/1/	color
Long-distance telephone calls		\$0.10/min
Postage		At cost



PERSONNEL	NAMES	RATE (\$/HOUR)
Project Manager	Stuart Jennings	\$105
Vegetation and Weed Scientist	Pam Blicker Monica Pokorny	\$85
Geology, Geochemistry and Soils Scientist	Stuart Jennings	\$95
Environmental Chemist	Dennis Neuman	\$105
Field Ecologist	Kurt von Kleist	\$75
Clerical	Dawn Major	\$45
TRAVEL		
Mileage	\$0.485/mile	State rate
Lodging	·	Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		50% of billing rate
EQUIPMENT		
EQUIFMENT	actual cost plus 4.65% admin fee	
MISCELLANEOUS		
Administrative time for billing	Pam Blicker	\$45
Photocopies		actual cost
Long-distance telephone calls		no charge
Postage		actual cost
		Non-labor costs ar
		assessed a 4.65%
		admin fee



PERSONNEL	NAMES	RATE (\$/HOUR)
Project Manager	Sherry Myers	\$65/hr
Supervisor	Joe Bauer	\$46/hr
Supervisor	Don Lange	\$46/hr
Supervisor	Brevy Walden	\$46/hr
Project Manager / Supervisor	Dave McAdoo	\$55 / \$46/hr
Crew laborer		\$32/hr
_		
TRAVEL		
Mileage - car		State rate
Lodging		Reasonable cost
Meals/per diem		State rate
Hourly rate during travel		\$29/hr
EQUIPMENT		
4 Wheel Drive Truck		\$65/day + \$0.21/mile
ATV /Trailer		\$85/day
Water Pump		\$35/day
Water Tank		\$25/day
MISCELLANEOUS		
Administrative time for billing		\$55/hour
Materials & supplies		Cost + 10%



Section 6: Evaluation Process

- 6.0. River Design Group, Inc. understands and will comply.
- 6.1 River Design Group, Inc. understands and will comply.

Appendix A: River Design Group, Inc. understands and will comply.

Appendix B. River Design Group, Inc. understands and will comply.

Appendix C. River Design Group, Inc. understands and will comply.

Appendix D. River Design Group, Inc. understands and will comply.



APPENDIX E

RESUMES



MATTHEW DANIELS, P.E.

Project Manager/Principal Engineer

EDUCATION

B. S., Civil Engineering, Lehigh University, Bethlehem, PA - 1992

LICENSES AND CERTIFICATIONS

Licensed Professional Civil Engineer in Montana, Idaho, Oregon, California, Utah and Nevada National Council of Examiners for Engineering and Surveying (NCEES) 40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL MEMBERSHIPS

American Society of Civil Engineers (ASCE)

PROFESSIONAL DEVELOPMENT

Introduction to Streambank Investigation, Stabilization and Restoration. ASCE. February 2005. Hydrologic and Hydraulic Design of Culverts, ASCE. December 2004. River Morphology and Applications, Wildland Hydrology, Inc. March 2003. Applied Fluvial Geomorphology, Wildland Hydrology, Inc. July 2002. FHWA Course No. 13046 Stream Stability and Scour at Highway Bridges (HEC18, 20 & 23). March 2001.

PROJECT EXPERIENCE

Milltown Restoration Project, 2001-Present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Daniels has served in various roles for the Milltown Restoration Project since 2001. Mr. Daniels has served as project manager since 2005 for the final design phase of the project. In cooperation with project stakeholders, Mr. Daniels has provided feasibility analyses to the NRDP in support of settlement negotiations and restoration plans for the Clark Fork River and Blackfoot River near Milltown Dam. Specifically, Mr. Daniels has conducted hydraulic and sediment transport analyses, developed channel and floodplain dimensions, prepared grading plans and performed stability analyses for the final restoration plan. In addition to the project workload, Mr. Daniels has managed an interdisciplinary staff composed of multiple subcontractors, presented designs to a nationally-recognized panel of peer reviewers and provided technical support to the State for public relations.

Willow Creek Restoration Project, 2005-present, Opportunity, MT, State of Montana Department of Justice, NRDP. Mr. Daniels is providing engineering support for the development of floodplain and wetland restoration grading plan designs for two miles of stream restoration on Willow Creek. As part of a multi-disciplinary effort, HEC-RAS floodplain modeling was used in concert with AutoCAD design tools and geomorphic data to develop a floodway grading plan intended to support revegetation efforts and reestablish hydrologic connectivity between the active bankfull channel and floodway.

Ashby Creek Restoration Project, 2005-2006, Ovando, MT, Big Blackfoot Chapter of Trout Unlimited. Mr. Daniels provided project management and engineering design services in support of a restoration plan to reconstruct three miles of Ashby Creek. The plan aims to decrease impacts of land use on stream conditions, improve channel-floodplain interaction, provide fish habitat for native species, and create conditions that allow riparian species to colonize the floodplain. Design components included development of channel design criteria, design of grade control and bank stabilization structures and design of an in-stream fish passage/irrigation diversion structure. Implementation occurred in July-August 2006.

Pilgrim Creek Restoration Project, 2005-2007, Noxon, MT, Lower Clark Fork Watershed Group and Avista Corporation. Mr. Daniels provided engineering support and construction management for the Pilgrim Creek Restoration Project. Mr. Daniels collaborated with RDG's hydrologist and fisheries biologist to complete the restoration design plan set for 1,200 feet of channel reconstruction, woody debris placement, cobble grade control installation and floodplain revegetation. Project construction occurred in September 2006.



Orofino Creek Confluence Reconstruction, 2002-2004, Orofino, ID, Clearwater County Project Impact. Mr. Daniels provided engineering design, public relations and construction management services for a channel reconstruction project at the confluence of Orofino Creek and the Clearwater River. The project objectives were to decrease channel instability, address excessive sediment deposition and provide favorable channel and floodplain conditions for endangered steelhead and native plant species. Design components included hydraulic modeling of backwater effects at the confluence, sediment transport analysis and permitting. Grade control and bank stabilization structures composed of native wood, cobble and rock were used to reconstruct approximately 500 feet of channel.

Jocko River Hatchery Reach Phase 1, 2002-2004, Arlee, MT, Confederated Salish & Kootenai Tribes. Mr. Daniels assisted WestWater Consultants, Inc. with engineering and construction management services for 3,500 feet of channel reconstruction on the Jocko River. Duties included feasibility analysis for the preferred restoration concept, hydraulic and sediment transport analyses, flood risk assessment, development of channel and streambank stabilization structure designs and performance evaluations, and preparation of the construction plan set. Mr. Daniels was responsible for development of plan and specifications review and consulting, construction quality control assurance, and final inspection of completed work. During project construction, Mr. Daniels was also responsible for materials testing including soil and backfill suitability, compaction and gradation. Mr. Daniels continues to provide engineering expertise to the Confederated Salish & Kootenai Tribes in support of ongoing and future proposed restoration activities on the Jocko River.

Pipe Creek Restoration Project, 2004-2005, Libby, MT, Montana Fish, Wildlife & Parks. Mr. Daniels assisted RDG staff with risk assessment and engineering services for 3,000 feet of channel reconstruction on Pipe Creek. Risks associated with undersized bridges and residential floodplain encroachment were evaluated with hydraulic models and factored into the restoration plans. Mr. Daniels recommendations included replacement of one bridge and installation of a hydraulic structure at another bridge to improve conveyance. Other responsibilities included preparation of grade control and bank stabilization details, materials specifications and estimates, cost estimates and an engineer's report.

Sprague River Restoration Project, 2002-present, Beatty, OR, U.S. Fish & Wildlife Service. Mr. Daniels assisted with the design and construction management of two river restoration projects in the Upper Klamath Lake basin in south-central Oregon. The largest project was designed for a multi-phase implementation schedule. The first phase encompassed approximately one mile of the Sprague River and was completed in 2005. Mr. Daniels was responsible for soils testing and evaluation, development of final design plans, specifications and bid packages, material quantity calculations, and cost estimation. Mr. Daniels conducted hydraulic and sediment transport modeling to characterize existing and proposed river conditions. This information was used to develop innovative bioengineering structure designs to ensure long-term stability objectives are satisfied following full implementation of the 2.5 mile long project. Mr. Daniels provided construction management during the first phase of construction implementation. Other duties included development of the construction phasing plan, haul route identification and construction, surface water diversion and site dewatering plans, and sediment excavation, removal, and temporary stockpile area preparation.

Grave Creek Restoration Project, 2002-2006, Eureka, MT, Kootenai River Network, Inc. Mr. Daniels has provided engineering design and construction management support on approximately 1.5 miles of Grave Creek in the upper Kootenai River watershed. Design efforts required a variety of hydrologic and hydraulic assessments, floodplain evaluations, geomorphic analyses, fish passage evaluations, feasibility assessments and earthwork calculations. Mr. Daniels designed and provided oversight for the installation channel and streambank structures, managed construction, ensured construction quality control services, and provided final inspection of completed work.

Copperfield Creek Restoration Project, 2002-2003, Sprague River, OR, U.S. Fish & Wildlife Service. Mr. Daniels provided engineering and design services for the reconstruction of 2.5 miles of Copperfield Creek. Project responsibilities included preparation of construction plans, specifications, materials estimates, cost estimates, engineering details, and phasing plans.



JOHN MUHLFELD

Senior Hydrologist

EDUCATION

B.S. Geoscience, Hobart and William Smith Colleges, Geneva, NY - 1995 Minor Environmental Studies (Water Resources) University of Queensland, Brisbane, AU - 1994 (Department of Biological Sciences)

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL MEMBERSHIPS & AFFILIATIONS

American Fisheries Society – Montana, National American Water Resources Association (AWRA) Vice Chairman, Whitefish Lake & Lakeshore Protection Committee Member Montana Lake Society Technical Steering Committee City Councilman, City of Whitefish, Montana

PROFESSIONAL DEVELOPMENT

River Restoration and Natural Channel Design, Wildland Hydrology, Inc. 2001.
River Assessment and Monitoring, Wildland Hydrology, Inc. 2001.
Applied Fluvial Geomorphology, Wildland Hydrology, Inc. 2000.
River Morphology and Applications, Wildland Hydrology, Inc. 2000.
University of Indiana School of Geology Ecosystem Field Workshop 1997.
U.S. Forest Service ArcGIS Training Course, Kootenai National Forest 1997.
Applying the NEPA Process, Shipley and Associates 1996.
U.S. Forest Service Seasonal Hydrology Training Workshop 1995-1996.

PROJECT EXPERIENCE

Willow Creek Restoration Project, 2005-present, Opportunity, MT, State of Montana Department of Justice, NRDP. RDG is currently assisting the State of Montana Natural Resources Damage Program with floodplain and wetland restoration designs for Willow Creek near Opportunity, Montana. Mr. Muhlfeld is serving as project manager and lead design hydrologist. Responsibilities have included conducting open channel hydraulic analyses to ascertain channel bed competency, a detailed geomorphic investigation of the existing channel corridor, and field calibrating bankfull channel elevation using survey grade GPS along 12,000 ft of channel. The project has required the development of comprehensive existing and proposed conditions grading plans using AutoCAD design tools. In coordination with RDG staff, geomorphic, hydraulic and flood series analyses were completed. Water surface profile modeling using HEC-RAS was used in concert with field data to develop a floodway grading plan intended to re-establish hydrologic connectivity between the active bankfull channel and floodway. Following implementation, the channel and re-connected floodplain will create over 150 acres of riparian and riverine wetland habitat.

Therriault Creek Restoration Project, 2003-2006, Eureka, MT, Kootenai River Network, Inc.

Mr. Muhlfeld served as the project manager for a two mile channel and 68 acre wetland restoration project in the upper Kootenai River valley of northwest Montana. Preliminary restoration concepts developed in 2002 by Mr. Muhlfeld were used as a basis for preparing a final restoration design. To ensure project stability, a phased implementation plan was developed for the project and required detailed construction logistics and scheduling over a three year period. Construction details and techniques included two miles of new channel construction, creating 1.5 acres of open water wetland habitat and 66 acres of herbaceous-shrub wetlands associated with the historically drained wetland complex. Mr. Muhlfeld orchestrated the final design, supervised construction implementation, and was responsible for quality control throughout all project phases.



Granite Creek Restoration Project, 2003-present, Clark Fork, ID, Idaho Fish & Game.

Granite Creek, an important bull trout spawning tributary to Lake Pend Oreille, was adversely affected by residential development and forestry practices throughout the late 1900s. In January 1997, a large rain-on-snow event destabilized the system resulting in a braided channel network, dispersed flow regime, and habitat simplification. Channel dewatering in late summer and fall resulted in a barrier to migratory adult bull trout. In coordination with Idaho Fish & Game, Mr. Muhlfeld designed and implemented a 3,000 ft channel and floodplain restoration project to restore fish passage connectivity and a stable, natural fluvial system with enhanced aquatic habitat. Mr. Muhlfeld identified various restoration alternatives and performed cost-benefit analyses for presentation to the project stakeholders. A rigorous design process was completed including detailed hydrologic and hydraulic analyses, sediment transport investigations, and channel stability evaluations to ascertain post construction performance. In 2005, Mr. Muhlfeld provided construction management, supervised construction contractors, and performed final inspection of completed work. Mr. Muhlfeld developed and implemented a 3-year monitoring program to evaluate project effectiveness and is continuing to coordinate with Idaho Fish & Game on downstream priority reaches.

Milltown Restoration Project, 2003-present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Muhlfeld has served as the lead field hydrologist on the Milltown Restoration Project since 2003. In cooperation with project stakeholders and Mr. Gary Decker of WestWater Consultants, Inc., Mr. Muhlfeld has been responsible for developing Sampling and Analysis Plans, implementation of field data collection efforts including sediment and geomorphic investigations, and suspended sediment and bedload sampling. In addition, as a contributing author of the Restoration Plan, Mr. Muhlfeld assisted the design team with preliminary hydraulic and geomorphic analyses, sediment yield and transport calculations based on scour chain and bank erosion data collected on the Clark Fork and Blackfoot Rivers, and draft channel dimensions applying analog, empirical and analytical based procedures.

Musselshell River Feasibility Study, 2005, Shawmut, MT, Oxbow Land Management, LLC.

River Design Group completed a 2.5 mile study of the Musselshell River to describe the current and potential morphological characteristics of the river corridor. Mr. Muhlfeld served as the principal hydrologist and project manager and was responsible for field data collection, analysis, and interpretation. Using traditional ground survey methods, Mr. Muhlfeld mapped four distinct hydro-geomorphic features including the active meander belt width/riparian corridor, open water and herbaceous-shrub wetlands associated with off-channel areas, low Holocene terraces, and upland Holocene and Pleistocene formations. Complementary channel hydraulic and floodway analyses were completed in HEC-RAS to determine flood inundation frequencies for the mapped features. The analysis identified potential areas for meander reactivation and quantified riparian and wetland improvements that would be realized with implementation of the various alternatives. Mr. Muhlfeld prepared a final report that included a detailed cost-benefit analysis and conceptual restoration plan.

Sycan River Restoration Master Plan, 2002-present, Beatty, OR, U.S. Fish & Wildlife Service.

The Sycan River is a major tributary to the Sprague River system in the Upper Klamath Lake watershed in south-central Oregon. Identified as a significant source of sediment and nutrients to the Sprague River, River Design Group, Inc. was retained to evaluate the feasibility of restoring approximately 7 miles of river to a more properly functioning fluvial system. Mr. Muhlfeld has orchestrated a comprehensive mapping of landscape features including Holocene terraces, active floodplains and oxbow meanders. Ground based survey techniques were integrated with LiDAR mapping to produce a seamless terrain model that will be used to evaluate the geomorphic succession of the river corridor, identify the feasibility of reactivating historical oxbow meanders, and develop preliminary earthwork calculations for project implementation.

Grave Creek Restoration Projects, 1998-present, Eureka, MT, Kootenai River Network, Inc.

Mr. Muhlfeld has been involved with restoration planning on Grave Creek since 1998. To date, Mr. Muhlfeld has designed and implemented approximately 8,000 ft of channel restoration activities on lower Grave Creek to improve channel and habitat conditions for migratory adult bull trout.



TROY BRANDT

Fisheries Biologist

EDUCATION

M.S. Environmental Studies-Aquatic Ecology, University of Montana, 2000

B.S. Environmental Biology, University of California, Davis, 1996

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL MEMBERSHIPS

American Fisheries Society - National, Montana, Oregon, and California American Fisheries Society Watersheds, Riparian, and Habitat Committee Chairman River Restoration Northwest Member

PROFESSIONAL DEVELOPMENT

Sediment Dynamics in Channel Rehabilitation and Restoration Short Course, RRNW, 2005 Basic Wetland Delineation Training, Wetland Training Institute, 2004 Wetland Mitigation, Construction, and Installation, Portland State University, 2004 River Restoration and Natural Channel Design, Wildland Hydrology, Inc., 2001 River Assessment and Monitoring, Wildland Hydrology, Inc., 2000 Applied Fluvial Geomorphology, Wildland Hydrology, Inc., 2000

PROJECT EXPERIENCE

Milltown Restoration Project, 2001-Present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Brandt has functioned in a supporting role to RDG's engineering and lead hydrologist as well as WestWater Consultants, Inc for the Milltown Restoration Project. Mr. Brandt involvement with the project has included field data collection, data analysis, empirical equation review, and historical conditions evaluation. Mr. Brandt was also a lead writer on several sections of the October 2005 Restoration Plan.

Sprague River Restoration Project, 2002-Present, Beatty, OR, U.S. Fish & Wildlife Service-Klamath Basin Ecosystem Restoration Office. Mr. Brandt is the lead project manager for the Winding Sprague River Ranch Restoration Project. Located on the Sprague River near Beatty, Oregon, the Winding Sprague Ranch is a critical segment in the migration corridor for two endangered sucker species, the Lost River sucker and the shortnose sucker. Project details include a project channel length of 2.5 miles, reconstruction of 3,500 ft of historical meander sequences, placement of woody debris jams for aquatic habitat, enhancing 20 acres of wetland, and floodplain revegetation. Project tasks have included total station survey and photogrammetry of the project area, hydraulic modeling and stability analyses, engineering and new channel design. In addition to assisting with these project tasks, Mr. Brandt prepared the permit applications and also secured funds for project implementation. Mr. Brandt provided construction oversight during the first two construction phases completed in 2005 and 2006. Mr. Brandt will lead construction for Phase 3 in 2007.

Rock Creek Fish Passage Improvement Project, 2004-Present, Klamath Falls, OR, U.S. Forest Service, Fremont-Winema National Forest, Klamath Basin Ecosystem Foundation. Mr. Brandt is the project manager for the Rock Creek Fish Passage Improvement Project. Draining the Cascade Mountain Range west of Upper Klamath Lake, Rock Creek provides spawning and rearing habitat for Klamath redband trout, a State of Oregon species of special concern. RDG is collaborating with USFS and KBEF to implement a fish passage project that will address existing channel instability and aquatic habitat impairment related to past land management practices. As part of the project, Mr. Brandt compiled a literature review of Klamath redband trout, brook trout, and potential interactions between the two species. Other tasks completed by Mr. Brandt have included the site survey, data analysis, preliminary



hydraulic modeling, and assisting RDG's hydrologist with the design plan set. Mr. Brandt has completed two reports for the project. Project construction is planned for 2007.

Sycan River Restoration Master Plan, 2002-Present, Beatty, OR, U.S. Fish & Wildlife Service-Klamath Basin Ecosystem Restoration Office. Mr. Brandt is serving as a project lead on the Sycan River Restoration Master Plan. Over the past two years, Mr. Brandt has worked with USFWS to assess the existing conditions of the Sycan and develop potential restoration options for the drainage. Project tasks completed by Mr. Brandt have included site survey, establishing discharge measurement stations, aerial photo interpretation, and existing conditions evaluations.

Pilgrim Creek Restoration Project, 2004-2007, Noxon, MT, Lower Clark Fork Watershed Group and Avista Corporation. Mr. Brandt served as the project manager for the Pilgrim Creek Restoration Project. Mr. Brandt orchestrated a fish habitat and GPS channel survey in 2004. Mr. Brandt collaborated with RDG's hydrologist and engineer to complete the restoration design plan set and report. Project permits and funding were secured in 2004 and 2005. Project construction occurred in 2006 for 1,500 ft of channel, woody debris placement, and floodplain revegetation.

Elk Creek Stabilization Project, 2004-2006, Heron, MT, Elk Creek Watershed Group and Montana Department of Environmental Quality. Mr. Brandt has served as the project manager for the Elk Creek Restoration Project. Mr. Brandt orchestrated a fish habitat and GPS channel survey in 2004. Mr. Brandt collaborated with RDG's engineer to complete a terrace stabilization and fish habitat improvement design plan set and report. Project permits and funding were secured in 2004 and 2005. Project construction occurred in 2006.

Anderson Pond Stabilization Project, 2003-2005, Beatty, OR, U.S. Fish & Wildlife Service-Klamath Basin Ecosystem Restoration Office. Mr. Brandt was the project manager for the Anderson Pond Stabilization Project near Beatty, Oregon. The spring pond, a unique floodplain feature on the Sprague River, is characterized by upwelling ground water springs that are used by endangered sucker species for spawning. The project included stabilizing an avulsion channel discharging from the pond to the Sprague River. The avulsion channel was responsible for lowering the water surface elevation in the pond thereby decreasing aquatic habitat volume and fish access to the spawning springs. Mr. Brandt assisted on the site survey and stabilization design, compiled the design report and permit applications, and provided construction oversight.

Brown Spring Restoration Project, 2003-2005, Beatty, OR, U.S. Fish & Wildlife Service-Klamath Basin Ecosystem Restoration Office. Mr. Brandt was the lead project manager for the Brown Spring Creek Restoration Project. A critical spring fed tributary to the Sycan River in the Upper Klamath Basin, earthen berms and vertical standpipes created fish passage barriers for migratory Klamath redband trout, shortnose suckers and Lost River suckers, the two endemic endangered sucker species in the drainage. Project components included a total station survey, hydraulic modeling, and channel design. Project construction included construction of 3,000 ft of channel and a step pool structure to permit fish passage into the main project area. Project construction was completed in 2005.

PUBLICATIONS

Brandt, T.M. 2003. Long tubes and expandable stingers: innovative tools for improving revegetation success of riparian communities. Ecological Restoration 21(4): Note 259.

Schmetterling, D.A., C.G. Clancy, and T.M. Brandt. 2001. Effects of riprap bank reinforcement on stream salmonids in the western United States. Fisheries. 26 (7):6-13.

Brandt, T.M. 2000. Fish diversity, behavior, and microhabitat use in secondary channels of the Bitterroot River, Montana. Master's Thesis, University of Montana. 161 p.



JONATHAN FERREE

Fluvial Geomorphologist

EDUCATION

M.S. Fluvial Geomorphology, University of Wyoming, Laramie, WY 2000 B.S. Hydrology, Minor Geology, Southwest Texas State University, San Marcos, TX 1995

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response Commercially Licensed Pilot with Instrument Rating

PROFESSIONAL DEVELOPMENT

River Assessment and Monitoring, Wildland Hydrology, Inc. 2006
Applied Fluvial Geomorphology, Wildland Hydrology, Inc. 2005
River Morphology and Applications, Wildland Hydrology, Inc. 2005
Recipient of Rumsey Marston Scholarship Supporting Fieldwork in Fluvial Geomorphology

PROJECT EXPERIENCE

River Assessment, Survey and Monitoring, 2004-present.

Mr. Ferree's role as field hydrologist and geomorphologist is a chief component of his responsibilities at RDG. Primary duties include reach assessment using protocols that evaluate stream condition. He conducts topographic stream surveys, bank evaluations and sediment analyses to document and monitor geomorphic change in fluvial systems. He implements monitoring programs that can span multiple years and runoff events. On-going studies include large projects like the Clark Fork River at Milltown and multiple reaches of the Jocko River. Additional investigations include the Sycan River in Klamath Falls, Oregon and smaller, local systems experiencing modern changes.

Project Support and Design Development, 2004-present.

Mr. Ferree's additional responsibilities at RDG consist of hydrographic data collection and analyses in support of project design and development. He has performed tasks supporting full channel reconstruction, smaller-scale specialized treatments, and removal of in-stream barriers such as dams and culverts. Duties include reference reach and existing condition surveys, as well as project site characterization. Duties also include data organization, summarization and reporting using RiverMorph® software. Recent efforts pertain to the Jocko River Phase 2 reconstruction, Fishtrap Creek woody debris treatments and Brownsville Dam removal.

Construction Oversight, 2005-present.

Mr. Ferree continues to provide construction oversight for company river restoration projects. Duties include project planning and scheduling, cost estimation, plan and specification review, communication with heavy equipment operators, and final inspection. Recent projects include large reconstruction efforts such as Grave Creek in Lincoln County, as well as maintenance and single structure installations as completed in tributaries of the Lower Clark Fork.

Milltown Restoration Project, 2004-present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Ferree has served as the principal field hydrologist for multiple facets of the Milltown Restoration Project. During the initial phases of the project, he operated as field chief, supervising the stream survey crew conducting hydrographic surveys. Subsequent field efforts related to sediment modeling and validation include substrate pavement and subpavement analysis, bank pin and scour chain data, bedload and suspended sediment sampling, and depositional bar samples. Mr. Ferree completed a time-trend analysis and geomorphic interpretation for the Clark Fork River Project Area for the period of record 1890 to present, investigating the effects of anthropogenic impacts, flood events and construction of Milltown Dam. Recent field efforts include volumetric sampling of substrate alluvium extracted from soil test pits in the 1905 flood deposits.



Haskill Creek Restoration Project, 2004-present, Whitefish, MT, Flathead Conservation District. Mr. Ferree continues to operate as the lead field hydrologist for the Haskill Basin TMDL Project. His duties range from water quality sampling and discharge measurements using USGS protocols to stream surveys investigating channel conditions, sediment sources, and fish habitat. Mr. Ferree supervised the implementation of a 1,000 ft demonstration project completed in 2005. Duties included project planning and scheduling, cost estimation, plan and specification review and communication with heavy equipment operators, and final inspection. Mr. Ferree oversees the on-going geomorphic-based channel monitoring program in Haskill Creek.

Hallowat Creek Habitat Restoration Project, 2003-2006, Big Creek, MT, Montana Fish, Wildlife & Parks. In 2003, Mr. Ferree operated as the chief field hydrologist for the Hallowat Creek Habitat Restoration Project. Duties and tasks include initial site review and interpretation, as well as geomorphic stream surveys, documenting existing channel conditions for project design and implementation. He provided construction oversight during the initial phases of material generation and stockpiling to project construction and completion. Mr. Ferree is engaged in a comprehensive monitoring program developed to evaluate the effectiveness of the implemented restoration actions on creating and maintaining complex aquatic habitat.

Sycan River Restoration Master Plan, 2005-2006, Beatty, OR, US Fish & Wildlife Service. Mr. Ferree has participated in the Sycan River survey and monitoring effort in which he applied Rosgen Level III protocol to four select reaches. He then analyzed the hydrographic data using Rivermorph 4.0 to summarize and report the information. Mr. Ferree has also completed a time-trend analysis on the Sycan River related to meander geometry and channel planform as it adjusts to watershed conditions. Summary data and results will be utilized when developing design plans for channel restoration.

Thompson River Assessment, 2005, Thompson Falls, MT, USDA Lolo National Forest. Mr. Ferree operated as chief field hydrologist related to studies conducted for the Thompson River Hydrologic Assessment. Using current and historical aerial photos, Mr. Ferree completed a geomorphic assessment of the Thompson River corridor, investigating departure in indices such as meander planform, channel width, gravel bar development, road encroachment and channel length adjustment. He also oversaw field work obtaining McNeil Cores to evaluate substrate pavement and subpavement particle distributions. Mr. Ferree operated as chief field hydrologist for the Thompson River Road Contaminant Study which evaluated concentrations of carbon-based chemicals used in dust abatement programs adjacent to two local communities. The results and methods were presented in a comprehensive report to the Federal Highway Administration and Lolo National Forest.

Stillwater River Hydrologic Assessment, 2003-present, Kalispell, MT, Montana Department of Environmental Quality. Mr. Ferree has been the chief field hydrologist for the Stillwater River Hydrologic Assessment since 2003. He was responsible for intensive water quality sampling at nine different monitoring stations, including site development and maintenance, quality control, data analysis and reporting. Also included in this assessment was Macroinvertebrate sampling and data collection, periphyton sampling and pathogen concentration analysis. He was solely responsible for data compilation and analysis.

Pipe Creek Restoration Project, 2004, Libby, MT,Montana Fish, Wildlife & Parks. Mr. Ferree operated in a supporting capacity for the Pipe Creek Restoration Project. He was responsible for collecting field data in support of the hydraulic analysis study. As this data was used for modeling purposes, accurate measurements and quality control were paramount.

Prospect Creek Geomorphic Assessment, 2003, Thompson Falls, MT, Prospect Creek Watershed Council. Mr. Ferree completed a time-trend analysis for the Prospect Creek Geomorphic Assessment. Using historical aerial photographs dating back to 1947, he as able to document changes in channel pattern and dimension over time in response to watershed conditions. He supervised field crews collecting data related to channel adjustments associated with corporate land management (e.g. pipeline, transmission lines) and geomorphic indices such as pool frequency and residual pool depth. He also supervised road inventories, documenting contributing areas at stream crossings.



ANDREW BELSKI, P.L.S.

Professional Land Surveyor Information Technology Specialist

EDUCATION

New Mexico State University, Las Cruces, NM 1988-1989
A.A.S., Land Surveying, Flathead Valley Community College, Kalispell, MT 2000

LICENSES AND CERTIFICATIONS

Montana Professional Land Surveyor 14731 PLS
Idaho Professional Land Surveyor 10486
40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response
Lincoln County Examining Land Surveyor/ Contract County Surveyor

PROFESSIONAL MEMBERSHIPS

American Congress of Surveying and Mapping (ACSM)

PROJECT EXPERIENCE

Milltown Restoration Project, 2001-present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Belski has coordinated ground, bathymetric, aerial and geodetic control surveys for the restoration project area using GPS, total station, photogrammetry and sonar based bathymetry methods. Other related duties have included management of four survey crews, rectification of aerial images, processing survey data and merging data to create a seamless topographic map of the restoration project area. Mr. Belski has assumed a lead role in the acquisition, management, and sharing of topographic and imagery data between the NRDP, Settling Defendants' designees, and River Design Group.

Sycan River Restoration Master Plan, 2005-present, Beatty, OR, U.S. Fish & Wildlife Service.

Mr. Belski has provided a variety of remote sensing and survey and mapping support services to the engineering staff for restoration design planning on the Sycan River. Specifically, Mr. Belski coordinated 20 miles of primary and secondary control networks to ensure the accuracy of conventional bathymetric/hydrographic data collection completed with GPS and traditional total station survey methods. To ensure quality control, Mr. Belski coordinated and supervised all post survey data processing and merging of conventional, GPS and LiDAR data. Mr. Belski also developed a seamless image of the project area using DIME® rectification software.

Willow Creek Restoration Project, 2005-present, Opportunity, MT, State of Montana Department of Justice, NRDP. Mr. Belski coordinated primary control of the project area to ensure the accuracy of RTK, GPS, and floodplain topographic survey. Mr. Belski developed the field survey plan that included collection of topographic and hydrographic attributes throughout the 150 acre project area and along 2.5 miles of Willow Creek. Following data collection, Mr. Belski post processed the data, integrated topographic information with AutoCAD design software, and assisted in grading plan development with staff scientists.

Jocko River Master Plan, 2002-2004, Arlee, MT, Confederated Salish & Kootenai Tribes.

Mr. Belski coordinated primary control of the project area to ensure the accuracy of RTK, GPS, and floodplain topographic survey. Mr. Belski developed the field survey plan that included collection of topographic and hydrographic attributes. Following data collection, Mr. Belski post processed the data, integrated topographic information with AutoCAD design software, and assisted in grading plan development with staff scientists. Mr. Belski also developed a seamless digital image of the entire 21 mile Jocko River channel corridor using DIME® software.



Therriault Creek Restoration Project, 2002-2004, Eureka, MT, Kootenai River Network, Inc.

Mr. Belski coordinated primary control of the project area to ensure the accuracy of RTK, GPS, and floodplain topographic survey and existing condition hydrographic data collection. Mr. Belski was responsible for data processing, integrated topographic information with AutoCAD design software, and preparing the conceptual and final design construction plan sets. Prior to construction, Mr. Belski supervised staking of the 2.0 mile project using total station and GPS methods, and provided project elevation control and re-staking as needed throughout the construction period.

Grave Creek Restoration Projects, 2000-present, Eureka, MT, Kootenai River Network, Inc.

Mr. Belski has assumed a lead role in all facets of restoration planning and implementation on Grave Creek. Throughout his six years of involvement with restoration planning on Grave Creek, Mr. Belski has applied an adaptive management approach to refine hydrographic survey skills and determine an appropriate level of data collection to support engineering analysis and design. In 2000, Mr. Belski assisted WestWater Consultants, Inc. with imagery rectification and AutoCAD drawings for the Master Plan document. In 2001, Mr. Belski was the survey party chief responsible for establishing GPS control, performing hydrographic and land surveys, and performing construction staking for the Demonstration and Phase 1 Restoration Projects. In 2003 and 2005, Mr. Belski supervised data collection efforts for the Phase 2 and Phase 3 Projects, coordinated all data processing, assisted the engineering team with conceptual and final design plans using AutoCAD design tools, and provided construction staking.

Sprague River Restoration Project, 2002-present, Beatty, OR, U.S. Fish & Wildlife Service

River Design Group is involved with 13 restoration projects in the Sprague River watershed near Beatty, Oregon. As a component of these multiple projects, Mr. Belski established a geodetic control network involving both primary and secondary controls to ensure the accuracy of conventional bathymetric and hydrographic data collection conducted for the individual project areas. Following data collection, Mr. Belski has coordinated and supervised all data processing. For projects implemented to date, Mr. Belski has provided construction staking, elevation control, and as-built surveying to ensure construction accuracy.

Thompson River Assessment, 2004-2005, USDA Forest Service, Lolo National Forest.

River Design Group recently completed a comprehensive geomorphic investigation of the Thompson River valley for the Lolo National Forest and Federal Highways Administration. Mr. Belski acquired historical aerial photos as well as recent 2005 aerial photos and coordinated digital image rectification for all photo series using DIME[®] software. Mr. Belski produced a final report and series of laminated photo books to facilitate highway planning between the Lolo National Forest and Federal Highways Administration.

Stillwater River Flood Study, 2005-present, Private Landowner

Mr. Belski is currently assisting a private landowner in defining the base flood elevation for the Stillwater River near Kalispell, Montana. Initial data collection needs have included coordinating primary and secondary control networks throughout the project area for the purpose of ensuring accuracy with conventional bathymetric and hydrographic data collection methods. Mr. Belski has merged multiple data sources and survey information and created a seamless digital terrain model of the active channel, floodway, and floodway fringe. Data including conventional, GPS, sonar bathymetric, and photogrammetric data will be integrated to complete the model.

Mission Creek Restoration Project, 2006-present, Confederated Salish & Kootenai Tribes

River Design Group has been contracted by the Confederated Salish & Kootenai Tribes to generate a seamless 1 ft contour interval digital terrain model for Mission Creek near Arlee, Montana. The digital terrain model will be used to evaluate existing conditions of the project area and to support restoration and engineering design tasks.



MITCHELL PRICE, P.E.

Project Engineer

EDUCATION

MS, Civil Engineering, Montana State University, December 2006 BS, Civil Engineering, New Mexico State University, 1993

LICENSES AND CERTIFICATIONS

Professional Engineer- Montana (15676PE)

PROFESSIONAL DEVELOPMENT

FHWA Course No. 13046 - Stream Stability and Scour at Highway Bridges (HEC18, HEC20 and HEC23). April 2003.

PROJECT EXPERIENCE

Milltown Restoration Project, 2006-Present, Bonner, MT, State of Montana Department of Justice, NRDP. Mr. Price has provided technical support for the final design phase of the project. Mr. Price developed bedload transport prediction models from measured bedload data on the Clark Fork River and Blackfoot River. In addition, Mr. Price prepared hydraulic and sediment transport models for evaluating existing, reference and proposed project performance. Mr. Price has also applied his civil engineering background toward analyzing stability of bank stabilization and grade control structures for the restoration plan.

Hydraulic Modeling: Mr. Price has constructed and calibrated hydrodynamic models for a wide variety of flow fields in both open channel and closed conduits and is versed in the theory and numerical method implementation of numerous models. His modeling experience includes: 1D and quasi-2D analysis of unsteady gradually varied flows using HEC-RAS, WSPRO, GSTARS and CCHE1D, 2D modeling using depth averaged implementations of FESWMS and CCHE2D to evaluate both lateral and streamwise distribution of bed shear, and full 3D hydrodynamic models using ANSYS for investigation of temporally and spatially varied turbulent flow fields.

Revetment Design: Mr. Price is well versed in the analysis and design techniques used for bank stabilization and revetment. Methods include both incipient motion/excess shear and FHWA design methods of HEC-11 as well as geotechnical bank stability assessments using both traditional and finite element methods. He has designed and constructed erosion control measures for channel bed and bank stabilization associated with irrigation intake works and property loss prevention using both hard and soft armor, vertical grade control, mechanically stabilized earth walls and retaining walls.

Fish Passage: Mr. Price has experience in the design and construction of hydraulic structures for fish passage, routing and entrainment with flow capacities up to 200 cfs. Completed structures include Denil baffle, vertical slot and pool/weir fishways and associated intake works and outlet structures.

Channel Stability Assessment: Mr. Price is experienced in the evaluation of alluvial channel stability and quantification of the rate and magnitude of critical geomorphic processes such as bank retreat, meander bend migration, sediment transport and bed aggradation/degradation. He is versed in a family of analytical and probabilistic methods including rapid site assessment techniques of HEC-20, tractive force/active bed methodologies for channel design, scour analysis in accordance with HEC-18, geotechnical analyses of bank retreat, and the development/application of geomorphic regime relationships.



SELITA AMMONDT

GIS Specialist

EDUCATION

B.S. Earth Science – Geography, Montana State University

PROJECT EXPERIENCE

Middle Fork John Day River Restoration Project, 2007, Galena, OR, Oregon Trout. Ms. Ammondt has provided support during completion of the Middle Fork John Day River Project. Selita managed a LiDAR dataset to produce presentation maps, field maps, and remote analyses. She worked with multiple time series air photos to evaluate river corridor changes over the past 60 years on the Middle Fork John Day River.

O'Dell Creek Restoration Project, 2007, Ennis, MT, DJP Aquatic Consulting, Ltd. O'Dell Creek, a tributary to the Madison River, has been impacted by management practices, mainly the conversion of a half mile of the headwaters to a ditch for agricultural and livestock functions. Ms. Ammondt worked closely with John Muhlfeld, the project manager, and the client to produce a channel design alignment conducive to aquatic species habitat restoration. The integration of GIS-based drafting with CAD and GPS technology allowed Selita to generate an alignment that was transferred from GIS to CAD, and subsequently to GPS units, allowing the field crew to stake out the alignment on the ground.

Haskill Creek TMDL Project, 2006, Whitefish, MT, Montana Department of Environmental Quality. Ms. Ammondt completed mapping and GIS analysis for the Haskill Creek TMDL and Water Quality Management Plan. Data analysis included mapping water quality sampling stations, analyzing geographic data, and completing analyses. Deliverables included watershed maps and reporting to Montana DEQ.

Stillwater River TMDL Project, 2006, Whitefish, MT, Montana Department of Environmental Quality. Completed mapping and GIS analysis for the Stillwater River TMDL and Water Quality Management Plan. Data analysis included mapping water quality sampling stations, analyzing geographic data, and completing analyses. Deliverables included watershed maps and reporting to Montana DEQ.

Nevada Spring Creek Restoration Project, 2006, MT, Montana Fish, Wildlife, & Parks. Ms. Ammondt assisted in project preparation through the assimilation of high-resolution aerial photography into GIS, and GIS analysis of the project site. She reported to John Muhlfeld, project manager, on the existing meander geometry of Nevada Spring Creek, aiding in preparatory assessment work.

Milltown Restoration Project, 2006-present, Bonner, MT, State of Montana Department of Justice, NRDP. In addition to creating maps detailing RDG field survey data and data collection efforts, Ms. Ammondt has supported the Restoration Team with GIS analysis, air photo analysis, and maintenance of a GIS database. The incorporation of historical and current aerial photography spanning 86 years into a GIS allowed Selita to measure and evaluate changes to river geometry over time. She also used ArcGIS and HEC-GeoRAS to support hydraulic modeling of the Clark Fork River. Ms. Ammondt has reported to Matt Daniels, RDG's project manager on the Milltown project.

Sycan River Restoration Master Plan, 2006-present, Beatty, OR, U.S. Fish & Wildlife Service. The Sycan River is a major tributary to the Sprague River system in the Upper Klamath Lake watershed in south-central Oregon. Identified as a significant source of sediment and nutrients to the Sprague River, River Design Group, Inc. was retained to evaluate the feasibility of restoring approximately 7 miles of river to a more properly functioning fluvial system. Ms. Ammondt has used ArcGIS and HEC-GeoRAS to support hydraulic modeling of the Sycan River. She has also worked with Troy Brandt, the project manager, to provide presentation-quality maps and analysis for landowner meetings and reports. Selita has efficiently managed a large LIDAR/bathymetry dataset that also includes field survey data, bank stability information, and multiple air photo series.



THOMAS PARKER

Principal Ecologist – Geum Environmental Consulting, Inc.

EDUCATION

Master of Science, Resource Conservation (1996) University of Montana Bachelor of Science, Forestry (1988) University of Montana

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL DEVELOPMENT

Fluvial Geomorphology, taught by Dave Rosgen at Pagosa Springs, Colorado. August, 1996. Proper Functioning Condition Assessment of Riparian Areas, U.S. Forest Service, July, 1998.

PROJECT EXPEREINCE

Milltown Dam Restoration Planning, State of Montana, current. Mr. Parker is leading development of the riparian revegetation portion of the Final Restoration Plan for Milltown Dam removal, as part of an interdisciplinary restoration planning team in preparation for removing Milltown Dam and restoring the Clark Fork River /Blackfoot River confluence. The revegetation plan emphasizes revegetation techniques that mimic natural floodplain processes. The revegetation plan is organized according to different spatial geomorphic components within the floodplain: for example, frequently flooded depositional areas rely more on natural cottonwood regeneration processes, while off-channel wetland strategies emphasize aggressive, active revegetation to promote desirable native species and limit weed infestation.

Riparian Restoration Planning, Jocko River, Montana, Confederated Salish and Kootenai Tribes. Current. Mr. Parker is assisting the Confederated Salish and Kootenai Tribes in their efforts to restore the Jocko River in western Montana. Tasks include: developing revegetation plans, writing wetland and vegetation-related chapters of a Master Plan document, delineation and assessment of wetlands and plant communities for the watershed complex; riverine functional assessments; participating in general watershed restoration planning activities; and construction oversight for active restoration projects. In addition, during summer 2004, Mr. Parker filled many of the roles normally filled by the Tribal Restoration Botanist while that position was vacant.

Rye Creek Road Revegetation and Sediment Control, Ravalli County Road and Bridge Department, 2006 to present. Mr. Parker worked with the County Road and Bridge Department to design road slope revegetation and erosion control as part of a multi-partner sediment reduction project along Rye Creek Road. Partners included Ravalli County, Trout Unlimited, Bitter Root Water Forum, and U.S. Forest Service.

Revegetation Planning for Blackfoot Watershed Projects, Big Blackfoot Chapter Trout Unlimited, 2006. Mr. Parker developed revegetation plans to support three stream restoration projects being implemented by partners associated with the Blackfoot Watershed near Ovando, Montana. Revegetation strategies take advantage of natural recovery where possible, and focus limited revegetation budgets on the most heavily disturbed areas.

Thompson River Riparian Restoration. 1998 to present. Mr. Parker designed and implemented a riparian restoration project associated with bull trout habitat restoration for Plum Creek Timber Company in support of their Native Fish Habitat Conservation Plan commitments. The project is located adjacent to the Thompson River Road between mile markers 30 and 35. This project, supported in part by Montana's Future Fisheries Program, is aimed at restoring native riparian forest and shrub communities to a floodplain currently dominated by reed canarygrass, an invasive grass that out-competes native plant species and results in poor fish and wildlife habitat. The project design combines cardboard and wood chips to suppress canarygrass, modify the soil nutrient budget, and promote native shrub establishment. Mr. Parker has worked on this reach of the Thompson River since 1998 and is thoroughly familiar with riparian and wetland plant communities in the area.

Final design for Finley Creek Flats Wetland Mitigation Site, Flathead Indian Reservation, Montana, Confederated Salish and Kootenai Tribes, 2002 to present. Mr. Parker worked with tribal staff to develop a final wetland restoration plan for a 300-acre parcel, based on a restoration concept he had previously developed. The restoration plan is focused on enhancing wetland function by re-grading



drainage ditches, naturalizing a constructed pond, and converting agricultural land to scrub-shrub wetlands. Mr. Parker completed wetland delineations and functional assessments at the site. In addition, he contributed to wetland permitting and development of a Wetland Reserve agreement between the Tribes and Montana Department of Transportation.

Darby-Lost Trail Wetland Restoration Plan, Camp Creek near Sula, Montana, Western Federal Lands Highway Division, Federal Highways Administration, 2004. Mr. Parker was the project manager for a wetland restoration plan and biological resources report developed to support removal of fill material in the Camp Creek floodplain south of Sula, Montana. Mr. Parker facilitated an agreement among involved parties that resulted in a restoration approach for the site, and formed the basis for plans and environmental documentation developed by Geum Environmental Consulting, Inc. Within the project area, wetlands and riparian areas were delineated and classified according to the 1987 Corps of Engineers manual and Classification and Management of Montana's Riparian and Wetland Sites by Hansen and others (1995).

US 93 Wetland Mitigation Planning, Montana Department of Transportation, 2002-2003. Mr. Parker led development of a wetland mitigation program for highway construction between Evaro and Polson on the Flathead Indian Reservation. Tasks included mitigation site selection; development of wetland mitigation concepts; coordinating a Wetland Mitigation Group that included tribal, state, and federal representatives; and working with several engineering firms to guide development of final designs

Rosebud Creek Restoration. 2000-2001. Mr. Parker served as project manager for an emergency wetlands mitigation and streambank restoration project, in response to an Environmental Protection Agency enforcement action, along Rosebud Creek in eastern Montana. Recent road construction disturbed a portion of the perennial stream, requiring emergency assessment, planning and wetlands mitigation work. He worked closely with the COE, Montana Department of Transportation, and the Environmental Protection Agency in the permitting, planning and implementation phases of the project.

Painted Rocks Highway Revegetation Plan, Bitterroot National Forest, Montana. 2001. Mr. Parker developed a revegetation plan for the second phase of a highway construction project along Painted Rocks Lake in southwestern Montana for the Bitterroot National Forest, West Fork Ranger District. The plan was driven by the need to meet NPDES permit requirements for nonpoint source sediment control. Prescriptions, broken out according to slope steepness and soil quality, included erosion blankets, native containerized seedlings, native grass seed, soil amendments, bonded fiber matrix, maintenance watering and mycorrhizal inoculation of the site.

Bitterroot National Forest, McClain Creek Landslide Revegetation Plan, Montana. 2000-2001. Working with U.S. Forest Service personnel, Mr. Parker developed a revegetation plan aimed at integrating ecological restoration approaches with an existing geotechnical engineering plan for a landslide in the Bitterroot Mountains of western Montana. He classified the landslide into functional zones based on surface erosion processes and developed prescriptions that included native alders, willows, conifer, forb and graminoid species. Erosion control techniques included permanent non-degradable erosion fabric, slash windrows, contour wattles and porous gully check dams.

PUBLICATIONS

Parker, Thomas G. 2001. Riparian area revegetation for the Bitterroot River and Clark Fork River in western Montana. Miscellaneous publication prepared for Montana Fish, Wildlife and Parks.

Parker, Thomas G. and Darrel D. Myran. 2001. A bioengineering approach to upgrading sediment ponds. Geotechnical Fabrics Review 19(1): 36-43.

Parker, Thomas G, Paul L. Hansen, R.C. Ehrhart, and Bill Thompson. 1996. Riparian and wetland ecological health evaluation of selected streams on the Charles M. Russell National Wildlife Refuge. Riparian and Wetland Research Program, University of Montana, Missoula, MT.

Parker, Thomas G. and Paul L. Hansen. 1996. Riparian and wetland ecological health evaluation of East Slippery Ann Habitat Unit (#2) and Germaine Coulee Habitat Unit (#55): Charles M. Russell National Wildlife Refuge. Contract Completion Report for USDI Fish and Wildlife Service Cooperative Agreement Number 14-48-0006-95-939, Modification No. 2. Riparian and Wetland Research Program, University of Montana, Missoula, MT.



AMY SACRY

Biologist - Geum Environmental Consulting, Inc.

EDUCATION

Masters of Science, Resource Conservation (2004) University of Montana, Missoula, Montana Bachelor of Science, Biology (1998) Graceland University, Lamoni, Iowa

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL DEVELOPMENT

Soil Bioengineering I, II, and III, Portland State University, 2003
Master Invasive Plant Management, Missoula County Extension Office, 2003
Proper Functioning Condition Wetland Assessment, NRCS, 2002
Wetland Delineation with Emphasis on Soils and Hydrology (based on the Army Corps of Engineers Wetland Delineation Manual), Wetland Training Institute, 2002

PROFESSIONAL MEMBERSHIPS

American Fisheries Society Society for Ecological Restoration

PROJECT EXPERIENCE

Gird Creek Restoration Project, 2007-present, Corvallis, MT, Teller Wildlife Refuge. This project includes developing restoration strategies for an 8,000-foot reach of Gird Creek located on the Teller Wildlife Refuge in Corvallis, Montana. Ms. Sacry is the project manager and is coordinating and assisting with data collection, preparing restoration alternatives and will prepare the restoration plan for the site. Project objectives include; enhancement of adult migratory fish habitat, creation of spawning and rearing habitat, restoration of natural channel function and processes, and maintaining or creating public access, outreach and education opportunities.

Therriault Creek Riparian Restoration Project, 2006-present, Eureka, MT, Kootenai River Network. This project includes developing a riparian revegetation plan for a 9,000-foot restored reach of Therriault Creek, near Eureka, Montana. Ms. Sacry is the project manager and prepared the riparian revegetation plan for the site. She is coordinating a riparian revegetation workshop to demonstrate the planning process and riparian revegetation techniques. She is also coordinating implementation of the revegetation plan, scheduled to begin in Fall 2007.

Mission Creek Riparian Restoration Project, 2006-present, Moiese, MT, Confederated Salish and Kootenai Tribes. Ms. Sacry is a member of a team of restoration specialists assisting the Confederated Salish and Kootenai Tribes with restoration efforts along Mission Creek, tributary to the Jocko River near Moiese, Montana. She provided construction oversight for the bioengineering and revegetation portions of Phase I of the project. Project components included construction of bioengineered soil lifts and coir log fascines and construction of floodplain swales. Ms. Sacry designed and provided construction oversight for revegetation efforts along Phase II project, scheduled for construction in 2008. The purpose of this portion of the project is to establish riparian vegetation in high priority areas along portions of the proposed channel alignment. Project components include grading of future streambanks and floodplain terraces, installation of containerized plants and creation of an on-site nursery in preparation for future planting needs along the Phase II channel alignment.



Milltown Dam Phase II Revegetation Plan, State of Montana. 2004 to present. Geum Environmental is developing the final revegetation plan for Milltown Dam as part of an interdisciplinary restoration planning team in preparation for removing Milltown Dam and restoring the confluence of the Clark Fork and Blackfoot Rivers. The revegetation plan emphasizes revegetation techniques that mimic natural floodplain processes and is organized according to different spatial geomorphic components within the floodplain. Ms. Sacry is assisting with all aspects of revegetation planning.

Fishtrap Creek Fish Habitat Enhancement Project, 2006, Thompson Falls, MT, Plum Creek Timber Company. Ms. Sacry designed, prepared a permit support document and provided construction oversight for a pilot large woody debris placement project on Fishtrap Creek near Thompson Falls, Montana. The purpose of the pilot project is to restore large woody debris to an approximately 500-foot reach of Fishtrap Creek. The project will benefit all fish species inhabiting Fishtrap Creek, which include westslope cutthroat, bull, rainbow, and brook trout, along with mountain whitefish, and sculpins. The project is the result of a collaborative effort between Plum Creek Timber Company, Lolo National Forest, Montana Department of Fish, Wildlife and Parks, and the U.S. Fish and Wildlife Service.

Finley Creek Fish Habitat Enhancement Project, 2007, Arlee, MT, Confederated Salish and Kootenai Tribes. Ms. Sacry designed and provided construction oversight for a large woody debris restoration project on Finley Creek near Arlee, Montana. The purpose of the project was to use diverse configurations of logs to encourage overbank flow to restore hydrology to an adjacent scrub-shrub wetland. Other project objectives include enhancing fish habitat and restoring natural channel processes, such as sediment deposition and scour to stimulate natural riparian revegetation processes.

Wheelbarrow Creek Restoration Project, Stevensville, MT, Tri-State Water Quality Council, 2005-Present. Ms. Sacry is the project manager and prepared a conceptual restoration plan for a one-mile long reach of Wheelbarrow Creek, located northeast of Stevensville, Montana. Restoration strategies in the plan target sediment reduction and improvement of habitat quality within the stream. Restoration techniques include; channel re-alignment, construction of bioengineered soil lifts and coir log fascines, riparian planting, in-stream habitat structures, and elevation of a 400-foot reach of channel to restore floodplain connectivity. Ms. Sacry assisted with acquiring project funding and permitting for the project. She provided construction oversight for the initial phase of the project and will provide oversight for the final phase in 2007. In addition, Ms. Sacry coordinated volunteer days with local volunteer groups and donated time to conduct classroom and field educational tours for local students.

Ashby Creek Riparian Restoration Project, 2006, Ovando, MT, Big Blackfoot Chapter of Trout Unlimited. Ms. Sacry provided construction oversight for the bioengineering and riparian revegetation portions of a 16,000-foot channel restoration project on Ashby Creek near Ovando, Montana. Ms. Sacry coordinated a large volunteer effort utilizing high school students and local volunteer groups to implement a portion of the revegetation plan.

Grave Creek Revegetation, River Design Group, 2005-2006. River Design Group, Inc. of Whitefish, Montana, contracted with Geum Environmental to develop revegetation strategies for a completed channel restoration project along Grave Creek located near Eureka, MT. Revegetation techniques included; bioengineered soil lifts, floodplain terrace placement, excavation of swales in constructed floodplains, solarization weed control treatments and planting of containerized shrubs. Ms. Sacry prepared design plans and oversaw project installation during Fall 2005 and Fall 2006.

Jocko River Restoration Demonstration Reach Phase I, Confederated Salish and Kootenai Tribes, 2004. Ms. Sacry provided construction oversight for the plant salvage and streambank bioengineering portions of a large river channel re-alignment and riparian restoration project on the Jocko River in western Montana. Project activities included developing planting plans and materials lists, coordinating crews and installation of bioengineering techniques.

PUBLICATIONS

Sacry, Amy M. 2004. Stream and habitat variables influencing the distribution and abundance of *Tubifex tubifex* in Chamberlain Creek. Master's Thesis. University of Montana.



SARAH FLYNN

Botanist/ Ecologist - Geum Environmental Consulting, Inc.

EDUCATION

Bachelor of Arts, Biology with an Emphasis in Botanical Sciences University of Montana; Missoula, Montana (2001)

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL DEVELOPMENT

ESRI Geoprocessing and Scripting in ArcGIS 9 Seminar, 2005
Master Invasive Plant Management, Missoula County Extension Office, 2003
Wetland Delineation with Emphasis on Soils and Hydrology (based on the Army Corps of Engineers Wetland Delineation Manual), Wetland Training Institute, 2002

PROFESSIONAL MEMBERSHIPS

Society for Ecological Restoration

PROJECT EXPERIENCE

Milltown Dam Phase II Revegetation Plan, State of Montana. 2004 to present. Geum Environmental developed a conceptual revegetation plan as part of an interdisciplinary restoration planning team in preparation for removing Milltown Dam and restoring the confluence of the Clark Fork and Blackfoot Rivers. The revegetation plan emphasizes revegetation techniques that mimic natural floodplain processes. The revegetation plan is organized according to different spatial geomorphic components within the floodplain: for example, frequently flooded depositional areas rely more on natural cottonwood regeneration processes, while off-channel wetland strategies emphasize aggressive active revegetation to promote desirable native species and limit weed infestation. Ms. Flynn assisted with writing the conceptual restoration plan and collecting data to support final design.

Riparian Restoration Planning, Jocko River, Montana, Confederated Salish and Kootenai Tribes. 2003 to present. Geum Environmental Consulting is assisting the Confederated Salish and Kootenai Tribes in their efforts to restore the Jocko River in western Montana. Ms. Flynn completed a GIS-based suitability analysis of the watershed. The suitability analysis used soils, vegetation, and hydrology information to prioritize revegetation planning efforts. She is also developing site preparation plans for future restoration areas along the Jocko River. The site prep plans describe activities to prepare restoration sites for active restoration by shifting site characteristics to those that favor natural conditions and disturbance regimes. Site preparation activities include weed management, soil amendments and planting native trees, shrubs and herbaceous plugs.

Implementation Oversight for Finley Creek Flats Wetland Mitigation Site, Flathead Indian Reservation, Montana, Confederated Salish and Kootenai Tribes, 2002 to present. Geum Environmental Consulting assisted Tribal staff with developing final wetland restoration plans for a 300-acre parcel. The restoration plan focused on enhancing wetland function by re-grading drainage ditches, naturalizing a constructed pond, and converting agricultural land to scrub-shrub wetlands. Ms. Flynn assisted with oversight of revegetation efforts including planting native shrubs and herbaceous plugs and seeding areas of exposed soil resulting from the construction process.

Ashby Creek, Potomac, Montana, Big Blackfoot Chapter of Trout Unlimited. 2005. Ms. Flynn prepared a conceptual revegetation plan for a stream restoration project creating approximately 17,200 feet of new channel. The revegetation plan included recommendations for streambank treatments for establishing vegetation and stabilizing banks, floodplain planting and site preparation treatments to prepare areas for planting by reducing competition from pasture grasses and non-native species.

Willow Creek Revegetation, Corvallis, Montana, Bitter Root Land Trust. 2004 to 2005. Geum Environmental Consulting assisted the Bitter Root Land Trust and the local landowner to design and implement a revegetation project along Willow Creek. The project consisted of installing a riparian grazing exclosure, planting native shrubs along the creek, and building a hardened livestock crossing.



Ms. Flynn assisted with the development of the revegetation plan for the creek and in an adjacent upland area. The upland area will be revegetated to match an adjacent sage brush scrub area that has been isolated from grazing impacts. Ms Flynn also assisted with project implementation including planting native trees and shrubs along the channel, installing browse protection for planted material and installing willow stakes along portions of the channel.

Riparian Revegetation and Stream Restoration, Threemile Creek, Stevensville, Montana, Tri-State Water Quality Council and Brown Valley Ranch. 2004. Geum Environmental Consulting assisted the Tri-State Water Quality Council and local landowners along Three Mile Creek to restore two reaches of the creek. Stream restoration consisted of stream relocation in some areas, bank treatments, and instream structures. The banks and floodplain of the creek were revegetated with native vegetation. Ms. Flynn assisted with developing the planting plan and weed management recommendations and assisted with project construction including installing bioengineering streambank treatments and planting native trees and shrubs.

Hydrogeomorphic Assessment of Wetlands on the Flathead Indian Reservation, Confederated Salish and Kootenai Tribes, 2003 to present. Ms. Flynn is completing HGM assessments using the Northern Rocky Mountains Riverine model for more than 1,000 acres of floodplain area targeted for restoration activities. She is also completing Functional Effective Wetland Area Assessments (FEWA) for these same areas. The assessment process includes producing a GIS-based layer delineating vegetative cover types over aerial photographs, conducting field assessments to verify the initial cover type delineation and collect data, revise the cover type mapping as needed, data summary and report writing to summarize findings of the assessments.

Wetland Assessments, Flathead Indian Reservation, Montana, Confederated Salish and Kootenai Tribes. 2004 to 2005. Geum Environmental Consulting assisted the Confederated Salish and Kootenai Tribes in their efforts to determine the accuracy of wetland mapping within the Flathead Indian Reservation and assess wetland functions of mapped wetlands. Ms. Flynn instructed and assisted with wetland assessments using the Montana Wetland Assessment developed for the Montana Department of Transportation. Ms. Flynn also recorded detailed vegetation species list for each of the wetland sites and prepared reports of the assessment findings.

Thompson River Road Riparian and Wetland Resource Assessment, Thompson River, Montana, United States Forest Service Lolo National Forest and Federal Highways Administration. 2005. Geum Environmental Consulting conducted resource assessments for wetlands, riparian vegetation and large wood recruitment along 55 miles of the Thompson River. The United States Forest Service is evaluating existing resources along the Thompson River Road in anticipation of road projects related to the Thompson River Road. Ms. Flynn assisted with quantifying area of wetland, native riparian vegetation and areas with potential for large wood recruitment. She also assisted with evaluating the effects of the existing road and the effects of proposed alternatives to each of the resources. Wetland and riparian resources were mapped using aerial photography and mapping was confirmed by ground-truthing.

Environmental Documentation for US Highway 93 Improvements for the Ninepipe area north of St. Ignatius, Montana. 2002-2003. The Federal Highway Administration (FHWA), the Montana Department of Transportation (MDT), and the Confederated Salish and Kootenai Tribes (CSKT) are proposing improvements to US 93 from Evaro to Polson. The Ninepipe area is the subject of special concern because of potential impacts to the numerous wetlands and wildlife in the area. Ms. Flynn assisted with an aerial photograph-based wetland delineation of prairie pothole wetlands, field verifying existing wetland boundaries based on the aerial photograph delineation and using the revised wetland boundaries to update data from a 1996 Environmental Impact Statement. She also assisted with writing a supplemental environmental impact statement for the project area evaluating existing wetland conditions and potential wetland impacts.

Environmental Documentation for US Highway 93 Improvements from Evaro to Polson, Montana. 2002-2003. The Federal Highway Administration (FHWA), the Montana Department of Transportation (MDT), and the Confederated Salish and Kootenai Tribes (CSKT) are proposing improvements to US 93 from Evaro to Polson. Improvements include new lane configurations, constructing a visitor center, and mitigation measures including wildlife corridors. Ms. Flynn assisted with developing detailed concepts for a wetland mitigation plan throughout the project area.



GARY DECKER

Principal Hydrologist - WestWater Consultants, Inc.

EDUCATION

B. S., Hydrology / Forest Watershed Management, Colorado State University, Fort Collins, CO - 1979

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response

PROFESSIONAL DEVELOPMENT

Fluvial Geomorphology (Post-Graduate studies)
Fluvial Processes and Modeling (Post-Graduate)
Applied Fluvial Geomorphology
River Assessment and Monitoring
River Restoration and Design
Watershed Restoration
Burned Area Emergency Rehabilitation (BAER)
HEC-RAS Hydraulic Modeling

Wildland Hydrology Wildland Hydrology Wildland Hydrology Colorado State University U.S. Forest Service ASCE

Colorado State Univ. / USGS

U.S. Geological Survey

PROJECT EXPERIENCE

Milltown Restoration Project, 2000-present, State of Montana Department of Justice, NRDP. Mr. Decker has served as co-project manager on the Milltown Restoration Project since its inception in 2000. For six years, he managed inter-disciplinary staff from the three companies that comprise the Restoration Team. In cooperation with NRDP, River Design Group, Inc. and the site Trustees, Mr. Decker has successfully provided project leadership and technical support for conceptual planning efforts, field investigations, settlement negotiations and integration of remedial and restoration actions. In addition, Mr. Decker provided the basic design concepts and conducted feasibility analyses for the design criteria presented in the Restoration Plan – October 2005. Recommendations provided by Mr. Decker have been critical for the development of a Restoration Plan that satisfies natural resource objectives desired by the State and the public.

Jocko River Master Plan (JRMP), 1999-present, Confederated Salish and Kootenai Tribes. The JRMP evaluates historical, existing and potential restoration conditions for the 25 mile long Jocko River Corridor in western Montana. Restoration strategies are developed and actions identified and prioritized for the entire corridor. The JRMP is considered a "state of the science" document and was reviewed by several national experts in the field. Mr. Decker has served as project manager, hydrology and fluvial geomorphology specialist in preparing the JRMP, which is to be released in the next few months. Specifically, Mr. Decker provided the hydrology and fluvial geomorphology assessments, restoration strategy development, design concepts, channel dimensions, hydraulic and sediment transport evaluations, feasibility, cost analysis and prioritization strategy. To date, 2 large projects have been implemented based on the JRMP and two more are scheduled to be implemented within the next 8 months.

Jocko River Demonstration Project, 2002 to present, Arlee, MT, Confederated Salish and Kootenai Tribes. One of the highest priority projects identified in the JRMP was a two-mile long reach of river impacted by past channelization and downcutting. Mr. Decker served as project manager, principal designer and construction manager for Phase 1 of a two-phase project. Specifically, Mr. Decker managed a multi-disciplinary restoration team and provided channel design concepts, specifications, materials, cost estimates, staking, grading, elevation control, structure placement, erosion control and monitoring review for the project. In 2005 the newly constructed project withstood a 25-year runoff event with minimal damage. Through the University of Montana, the project has also been positively reviewed by nationally recognized experts in the restoration field.

Bitterroot River Streambank Stabilization and Restoration project; Bitterroot Springs Ranch near Stevensville, MT 1997-1998. This project reconstructed approximately 5,000 feet of the Bitterroot River



(width greater than 250 feet) and stabilized streambanks using natural channel design practices. About 3,500 feet of streambank was stabilized using primarily large woody debris and minimal rock vane structures. The project accomplished the objectives and continues to function appropriately providing stable streambanks and excellent habitat. Mr. Decker provided design and construction management services, channel design dimensions, grading plans, structure designs including location and placement, and construction oversight.

North Fork Blackfoot River Restoration Project near Ovando, MT, 1998, Big Blackfoot Chapter of Trout Unlimited. Mr. provided the plan for reconstructing 1200 feet of impaired river channel following the 1997 flood. The river has a bankfull width of about 130 feet and was stabilized predominantly with large woody debris structures. The project has undergone several floods and continues to provide holding water for migratory bull trout and cutthroat trout. Mr. Decker provided hydrology and fluvial geomorphology expertise to develop the design criteria, conducted hydrologic, hydraulic and sediment transport modeling, and provided design for staking, grading, implementation, structure placement and construction.

Dunham Creek Restoration Project near Ovando, MT, 2001, Big Blackfoot Chapter of Trout Unlimited. Approximately one mile of Dunham Creek (tributary to the NF Blackfoot River), a critical bull trout spawning stream, was impacted by past timber harvest and road construction such that it was in a braided condition and flowed subsurface for much of the year. Mr. Decker provided design review and oversight and was the primary implementer of the project. The stream was reconstructed from a braided condition to a meandering, riffle-pool channel using natural channel design techniques. Most of the structures associated with this 40 foot wide channel were constructed of large wood. The project continues to provide spawning habitat and a migration corridor to the headwater reaches.

Swiftcurrent Creek Restoration Project- Blackfeet Reservation near Babb, MT, 1995-1997, Blackfeet Tribe and US Bureau of Reclamation. Mr. Decker was contracted to complete a restoration plan for four miles of Swiftcurrent Creek downstream of Sherburne Dam that had been damaged by reservoir operations and floods impacting the stream and Lower St. Mary Lake. Mr. Decker provided the project management and leadership through the assessment, subcontracting, design and production of the restoration plan. Mr. Decker conducted all design and analysis functions of the plan, including bedload sediment data collection and analysis, hydraulic, sediment and stability computations, design criteria, materials, cost estimates and logistics. Mr. Decker also assisted in construction oversight of one phase of the project concerning an emergency stabilization of a historical burial site.

Warm Springs Creek, private ranch near McKay, ID., 2004-2006. This project involved restoring and reconstructing approximately 3 miles of a large spring creek which is a primary salmonid spawning stream. Mr. Decker provided the project and construction management for the restoration plan. Mr. Decker coordinated the assessments, design production and implementation, including the hydrology, geomorphology assessments, channel design criteria, structure design and construction oversight. The project is being used as an example of spring creek restoration for the Idaho permitting agencies.

PUBLICATIONS

Decker, G.T. 1988. Watershed Condition Analysis for Priest Creek, near Steamboat Springs, CO. Analysis used in Ski Area expansion EIS. USDA Forest Service, Routt National Forest. 45 pp.

Decker, G.T., R. Hammer, M. Beck, M. Mais. 1993. Bitterroot National Forest Watershed Evaluation Process (working draft). USDA Forest Service, Bitterroot National Forest. 146 pp.

Brown, C.M. and G.T. Decker. 1999. Non-traditional Approaches to Bank Stabilization on the Bitterroot River. Land and Water Magazine, Sept. / Oct. 1999 issue, pp. 15-17.

Brown, C.M. and G.T. Decker. 2000. Back to Nature at Bear Creek: A River Restoration Project near Potomac, MT. Land and Water Magazine, January / February 1999 issue, pp. 30-33.

Brown, C.M., G.T. Decker, R.W. Pierce, and T.M. Brandt. 2001. Applying Natural Channel Design Philosophy to the Restoration of Inland Native Fish Habitat. Proceedings of *Practical Approaches for Conserving Native Inland Fishes of the West Conference*. June 6 – 8, 2001. University of Montana, Missoula, Montana.



STUART R. JENNINGS

Environmental Geologist, Reclamation Scientist - Reclamation Research Group, LLC

EDUCATION

M.S. in Land Rehabilitation, Montana State University. (1993). B.S. in Geology, Montana State University. (1984).

LICENSES AND CERTIFICATIONS

40 Hour OSHA 1910.120 Hazardous Waste Operations and Emergency Response OSHA 1910.120 Hazardous Waste Operations and Emergency Response Supervisor CPR and First Aid certification Emergency Medical Technician (expired)

PROFESSIONAL MEMBERSHIPS AND AFFILLIATIONS

America Society of Mining and Reclamation

PROJECT EXPERIENCE

Clark Fork River Flood Plain Evaluation Study, 2005-present, CH2M Hill and EPA. An ecological evaluation protocol was developed by the Reclamation Research Unit (Stuart Jennings and Dennis Neuman) and Bitterroot Restoration (Paul Hansen) for assessment of the ecological health of the Clark Fork River floodplain where impacted by historic mine waste (2000-2003). The Riparian Evaluation System (RipES) is an objective, data predicated land assessment tool integrating vegetation, soil and streambank condition to determine whether the identified polygons require remedial action. Data collected includes GPS delineation of habitat polygons based on mine waste impacts to the landscape, weed mapping, wetland delineation and streambank condition evaluations. Mr. Jennings has served as a field team member and advisor to this on-going mapping effort encompassing 40 miles of privately owned ranch land along the Clark Fork River near Deer Lodge, MT.

Restoration of the Clark Fork River Floodplain at Bonner, Montana. 2004-present, Montana Department of Justice, Natural Resource Damage Program. Restoration of the floodplain of the Clark Fork River is required after removal of the contaminated sediments behind Milltown Dam. Mr. Jennings led an investigation of the soil suitability and sources of borrow material for use in floodplain reconstruction. Multiple sampling events were conducted to progressively resolve the location, distribution, characteristics and quality of available soil materials. Metal contamination was delineated leading to development of a grading plan maximizing contamination removal and minimizing cost by leaving uncontaminated historic floodplain sediments in the floodplain.

Hydrologic Monitoring of Cow and Pony Creeks, Rosebud County, Montana. 1990-present. Battelle-Pacific Northwest Laboratories. Power generation near Colstrip Montana creates nearly 1 millions tons of ash annually that is slurried to disposal ponds at the headwaters of Cow Creek. Long-term monitoring initiated in the early 1980's has been conducted to protect groundwater, surface water and springs on private ranch land down gradient of the ash disposal ponds. Mr. Jennings has participated in water quality monitoring over a 16 year period in an effort to assure the perpetuation of livestock grazing and access of clean water. This study emphasized long-term trend monitoring of the shallow alluvial and coal aquifers.

Keating Mine Reclamation Project, Radersburg, Montana. 2001-2006. U.S. BLM. Demonstration of in-place treatment of acidic mine tailings was requested by the BLM as a demonstration of the effectiveness of chemical amelioration of formerly phytotoxic mine tailings. Mr. Jennings performed the baseline vegetation inventory at this project site and developed the seed mix reflecting the management prescription and native species represented.

Arkansas River Remedial Action, Leadville, CO, 2005-present, URS Operating Services and EPA. Mine tailings deposited within the floodplain of the Arkansas River and on ranch land downgradient of Leadville, Colorado will be remediated under actions initiated by EPA under the Superfund statute. Mr.



Jennings serves as EPA's technical advisor on soil treatment, amendment specifications, streambank reconstruction, construction practices and revegetation prescriptions. Contamination is irregularly distributed across several landforms and habitat types. Using GPS and aerial photography the specific treatment areas have been mapped and unique treatment prescriptions developed reflecting habitat type, soil quality and construction considerations. Work on this project will be initiated in 2007. Stream restoration will include bank stabilization and complete streambank reconstruction through the 11 mile reach.

Implementing Construction Site BMPs in the Northern Rocky Mountains, 2005-2006, EPA. Stormwater control at construction sites is a regional problem. Revegetation is the ultimate form of soil stabilization of disturbed sites reflecting the adjacent undisturbed habitats. Mr. Jennings led the development of a training CD and website for regulators, engineers, land owners and construction site operators. Current practices employed across the region were evaluated, analyzed and synthesized into a graphic guide and training protocol for optimized effectiveness.

Evaluation of Organic Matter Addition and Incorporation on Steep Slopes. 2004-2007. Montana Department of Transportation. Stabilization of steep slopes along transportation corridors is ineffective when topsoil cannot be replaced and the underlying parent material does not support plant growth. Mr. Jennings was principal investigator in a research project funded by the Montana Department of Transportation to evaluate the feasibility and effectiveness of compost addition on steep slopes. Test plots were constructed in northwest and southeast Montana and monitored for a three year period to assess plant community development and erosion control.

RECENT PRESENTATIONS

Restoration of Stream and Riparian Corridors, 8 hour short course, presented April 2007 at the Mine Design, Closure and Operation Conference, Fairmont Montana. Presenters included Jack Schmidt, Karen Williams, **Stuart Jennings** and Len Ballek.



MARK ROHWEDER

Restoration Ecologist – Great Bear Restoration

EDUCATION

Master of Science, Forest Resources, University of Idaho, Moscow, ID 1998. Bachelor of Science, Wildlife Biology, University of Montana, Missoula, MT 1992.

QUALIFICATIONS

Mr. Rohweder is a Project Manager for Great Bear Restoration with 12 years of experience managing project logistics, client relationships and natural resource management. Mr. Rohweder has a diverse background and field experience in many aspects of natural resource management. Most recently he has developed and managed large complex restoration projects in Montana, California, Arizona, and Wyoming involving seed collection, seed cleaning, seed storage, plant production including prevegetated coir mats and logs, installation, maintenance, and monitoring. His currently duties include proposal development, project cost estimation, and project management.

PROJECT EXPEREINCE

Grand Teton National Park, Seed Cleaning, Storage, and Propagation, Grand Teton National Park. 2006–May 2007. Great Bear Restoration was awarded a contract with Grand Teton National Park to clean seed collected from 19 different species. Project manager responsible for overseeing the seed growing 1,600 containerized plants among 5 different species: Sagebrush, Silver and Silky Lupine, Idaho Fescue, and Needle and Thread grass. Monthly contacts are made with the client concerning project progress and inventory.

Grand Teton National Park, Moose Pathways Screen, Grand Teton National Park. April 2007 – ongoing. Great Bear Restoration was awarded a contract with Grand Teton National Park to clean, store, and test seed. Project manager overseeing the propagation of a variety of species in containers ranging in size from Treebands to 15 gallon pots. The contract also involves designing an irritation system, installing the irrigation system, and installing the plants. Monthly contacts are made with the client concerning project progress and inventory.

Moose Visitor Center, National Park Service, Moose, WY. 2005-2006. Cost estimating. Managed and directed the successful seed and cutting collection, seed cleaning, and seed storage of over 20 species of native plants (upland grass, wildflower, shrubs and trees) in Grand Teton National Park. Seed collected was either returned to the park for direct seeding or used to propagate over 20,000 containerized plants in 10 cubic inch, 1 gallon, 5 gallon, 15 gallon, and 45 gallon containers. Also supervised the salvage of conifers and deciduous trees.

Salvage and Replanting of Native Vegetation, Organ Pipe Cactus National Monument, AZ. 2002-2006. Cost estimating. Managed and directed the successful collection and cleaning of four (4) native species at Organ Pipe Cactus National Monument. Seed collected was seed directly to disturbed ground. Supervised the salvage and replanting of sensitive cactus species. Also supervised a crew to survey, map and removed targeted noxious weeds during and after replanting.

EcoSod: Development of Native Sod for Erosion Control along Highways, Phase I Grant, USDOT SBIR Program, Washington, D.C. 2004. Assisted in the development of a new sod production technique utilizing geotextiles and native plant materials for use in erosion control projects along highway systems by providing cost estimates for production.

Stapleton Airport Redevelopment – Westerly Creek Restoration (bioengineering), Valley Crest and the City of Denver. 2003. Westerly creek was day lighted after the removal of the old runways. After the stream channel was reconstructed, prevegetated coir mats and logs along with native plant plugs were planted. Coordinated with the client the delivery of 14,250 square feet of pre-vegetated coir mats, 3,200 linear feet of pre-vegetated 12" diameter coir logs, 3,350 linear feed of pre-vegetated 16" diameter coir logs, and 98,610 mostly 3 and 4 cubic inch containerized plants.



Dixon Pond Lateral 1A, City of Dixon, CA. 2003-2005. Managed a subcontractor who drill seeded 80 acres. Supervised the installation of a drip irrigation system, installation of thousands of containerized plants along with weed and browse protection. Continued managing site for 2 years after installation by controlling weeds and replacing plants.

Green Valley Corporate Wetland Mitigation, City of Green Valley, CA. 2003-2005. Site was mitigation for the offsite take of Blue Elderberry. Managed the removal of exotic plants, seeding of the site, installation of a drip and overhead irrigation system, installation of containerized trees, shrubs, and wetland plants. Coordinated the maintenance of the site with the responsibility of

Exotic Plant Control, US Corps of Engineers & Malmstrom Air Force Base. 2005-2006. Supervised and coordinated subcontractors to broadcast and spot spray targeted noxious weeds on Malmstrom Air Force Base.

PUBLICATIONS

Robin White, Siobhan Murray, and Mark Rohweder. 2000. Pilot analysis of global ecosystems: Grassland ecosystems. World Resources Institute. Washington, DC.

Emily Matthews, Richard Payne, Mark Rohweder, and Siobhan Murray. 2000. Pilot analysis of global ecosystems: Forest ecosystems. World Resources Institute. Washington, DC.

Rohweder, Mark R., C. W. McKetta, and Robert A. Riggs. 2000. Economic and biological compatibility of timber and wildlife production: an illustrative use of production possibilities frontier. Wildlife Society Bulletin, 28(2). pp. 435-447.

Rohweder, Mark. 1998. Determining whether timber harvesting is incompatible with other non-commodity management goals. Master Thesis. University of Idaho, Moscow, Idaho.



SHERRY MYERS

Restoration Ecologist – Watershed Restoration Group, Inc.

QUALIFICATIONS

Sherry Myers has substantial experience working on ecological restoration projects as a contractor, administrator, project manager, crew leader, and planter. Sherry has 27 years experience executing planting contracts for private clients and government agencies as both a business owner and an employee of a large organization. She currently owns and operates an ecological restoration services company, and has previously partnered in the ownership of a reforestation business.

PROJECT EXPEREINCE

Wetland and Riparian Mitigation: U.S. 93 North, White Coyote Project. Arlee MT. Montana Department of Transportation / Riverside Contracting. 2006-2007. Sherry served as project coordinator for a two-year contract for to provide revegetation services for mitigation sites associated with a highway construction project. Services included plant salvage, soil bioengineering (soil lifts), prevegetated coir mat installation, wetland and riparian planting on two sites near Arlee MT. Sherry worked with the prime contractor, the MDT project manager, and CSKT tribal authorities to coordinate the sequence of revegetation work according to the construction schedule, to schedule crews and materials delivery accordingly, and to negotiate changes to the contract specifications as the project proceeded. The project required that plant materials and pre-vegetated sod mats of appropriate seed source be procured and delivered according to the schedule, accompanied by necessary documentation, including the approval of acceptable plant substitutions due to plant availability issues or changes in site conditions. Sherry worked with MDT and Tribal authorities to develop a weed maintenance and plant replacement plan for three sites that were revegetated during the 2006 season.

Jocko River Restoration and Revegetation Services. Arlee MT. CSKT Fish, Wildlife, Recreation and Conservation Division. 2004- 2007. Sherry is serving as the project coordinator for an ongoing contract to provide revegetation services for a large, multi-phase river restoration effort on the Jocko River and its tributaries. She is responsible for oversight of project managers and crew supervisors working on several phases of restoration work over multiple seasons. In 2004, the first phase of restoration on the "Demo Reach" involved coordination with project designers and the Tribal project manager to identify the best methods of implementation for various restoration sites and phases of the project. Sherry's ongoing responsibilities include developing and tracking project budgets in partnership with CSKT, and working with Tribal fisheries managers to identify project needs, and provide revegetation crews, equipment and materials for projects on an "as-needed" basis.

Mud Creek Reconstruction: U.S. 93 North. Pablo MT. MDT/ Riverside Contracting. 2006- present. Sherry served as project coordinator for a two-year contract to install soil bioengineering structures (soil lifts), pre-vegetated sod mats, and container plants on re-constructed segments of Mud Creek, near Pablo MT. Sherry worked with the prime contractor, the MDT project manager, and CSKT tribal authorities to coordinate the sequence of revegetation work according to the construction schedule, to schedule crews and materials delivery accordingly, and to negotiate changes to the contract specifications as the project proceeded. The project required that plant materials and pre-vegetated sod mats of appropriate seed source be procured and delivered according to the schedule, accompanied by necessary documentation, including the approval of acceptable plant substitutions due to plant availability issues or changes in site conditions.

Upper Clark Fork Streambank Stabilization Demonstration Project. Deerlodge MT. ARCO 1997. Sherry served as the project manager for the implementation of demonstration project that included the use of several streambank revegetation methods, products and materials. Sherry supervised a large crew responsible for the installation of coir fascines, coir erosion control blankets combined with willow cuttings, construction of juniper tree revetments, installation of container plant of various sizes, collection and installation of willow cuttings, and construction and installation of willow fascines.



APPENDIX F

SIGNED ADDENDA



DEPARTMENT OF ADMINISTRATION

GENERAL SERVICES DIVISION STATE PROCUREMENT BUREAU

www.mt.gov/doa/gsd



BRIAN SCHWEITZER GOVERNOR

STATE OF MONTANA

MITCHELL BUILDING, ROOM 165 PO BOX 200135

(406) 444-2575 (406) 444-2529 FAX TTY Users-Dial 711 HELENA, MONTANA 59620-0135

June 14, 2007

STATE OF MONTANA
REQUEST FOR PROPOSAL ADDENDUM
RFP NO.: SPB07-13780
TO BE OPENED: June 19, 2007
TITLE: STREAM RESTORATION SERVICES

ADDENDUM NO. 01

To All Offerors:

Attached are written questions received in response to this RFP. These questions, along with the State's response, become an official amendment to this RFP.

All other terms of the subject "Request for Proposal" are to remain as previously stated.

Acknowledgment of Addendum:

The offeror for this solicitation must acknowledge receipt of this addendum. This page must be submitted at the time set for the proposal opening or the proposal may be disqualified from further consideration.

I acknowledge receipt of Addendum No. 01.

Signed:

Company Name: River Design Group, Inc.

Date: 06-15-07

Sincerely,

Robert Oliver, Contracts Officer

